NYD042513754

ENGINEERING INVESTIGATIONS AT INACTIVE HAZARDOUS WASTE SITES

PRELIMINARY SITE ASSESSMENT

Received: 1/28/91
Reviewed: 3/4/92
(PA2) Recommend: N
by G. Ferreira

Carborundum Corporation
Niagara Falls

Site No. 932048B
Niagara County

Prepared for:

New York State Department of Environmental Conservation

50 Wolf Road, Albany, New York 12233
Thomas C. Jorling, *Commissioner*

Division of Hazardous Waste Remediation
Michael J. O'Toole, Jr., *Director*

By:
E.C. Jordan Co.
Portland, Maine

JANUARY 1991

NYSDEC CONTRACT NO. D002472
NYSDEC WORK ASSIGNMENT NO. D002472-6

E.C. JORDAN CO.

FINAL REPORT

TASK 1: DATA RECORDS SEARCH AND ASSESSMENT
PRELIMINARY SITE ASSESSMENT

CARBORUNDUM BUILDING 82
SITE NO. 932048B
NIAGARA COUNTY

JANUARY 1991

Submitted by:

Elizabeth A. Ryan
Project Manager
E.C. Jordan Co.

Approved by:

William J. Weber
NSSC Program Manager
E.C. Jordan Co.

NOTICE

This Preliminary Site Assessment report about the Carborundum Building 82 Site (Site No. 932048B), in Niagara Falls, New York, was prepared expressly for the New York State Department of Environmental Conservation (NYSDEC) under the Superfund Standby Contract (No. D002472, Work Assignment No. D002472-6). The purpose of this report is to provide information necessary for NYSDEC to reclassify the site according to the Classes 2, 3, and Delist categories described in Section 2.0 of this report. The conclusions and recommendations in this report represent E.C. Jordan's professional judgment and opinion based on present, generally accepted engineering practices for conducting preliminary site characterizations and assessments. Conclusions in this report are based on records reviews, interviews, and site walkovers performed by Jordan personnel. The health-based regulatory standards discussed in this report may change in the future. Levels of environmental contamination that are "acceptable" by current standards may not be so in the future.

Information contained in this report may not be suitable for any other use without adaptation for the specific purpose intended. Any such reuse of or reliance on the information, assessments, or conclusions in this report without adaptation will be at the sole risk and liability of the party undertaking the reuse.

JHG/NYSDEC/70B

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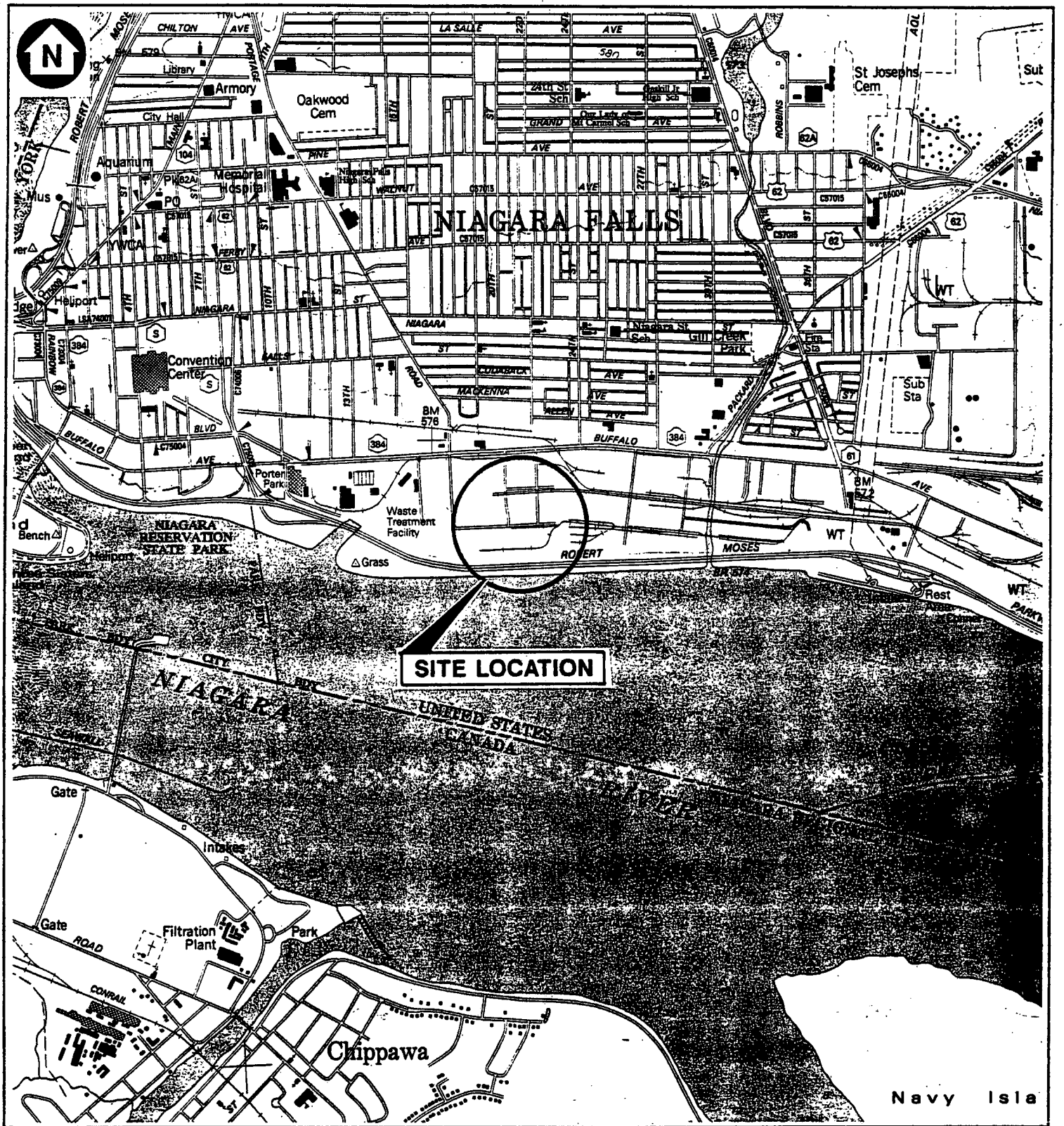
1.0 EXECUTIVE SUMMARY

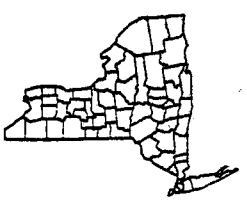
The Carborundum Building 82 (Carborundum) Site is a 1.5-acre storage area located on a 40-acre parcel of land owned by Washington Mills Electro Minerals Corporation. The property is located between Buffalo Avenue and the Robert Moses Parkway and the waste storage area is located south of Building 82 (see Figures 1 and 2). The 1.5-acre storage area was used for an unknown period of time to temporarily store wastes such as sand, refractory brick, dust collector fines, grinding wheels, fly ash, wood, metal scrap, silicon carbide fines, aluminum-silica shot, and kiln furniture made of ceramic materials. The practice of storing waste on this site was discontinued in 1979 and in 1985 all waste materials were removed by Modern Disposal Services, Inc.

The information collected and reviewed by Jordan revealed the following:

- There is no evidence or documentation of hazardous waste disposal on-site.
- The wastes stored on-site are not defined as hazardous according to 6 NYCRR 371.1(d).
- There is no evidence of any landfilling activity.
- PCBs were detected at levels of 0.0012 ppm and 0.55 ppm in the transformer oil containment pit. These levels are well below the NYSDEC maximum allowable concentration for non-hazardous waste of 50 ppm PCBs (6 NYCRR 371.4(d)(6)(e).
- The solvents used on-site to rinse abrasive grains (e.g., methanol, acetone, and toluene), have reportedly had no contact with wastes previously stored on the site.
- The site is located downstream from public drinking water intakes on the Niagara River.
- The site is secured by a chain-link fence and guarded.
- The nearest wetlands and drinking water wells are approximately 3 miles away.

Based on these findings, it is E.C. Jordan Co.'s (Jordan) recommendation that the Carborundum Site be delisted from the suspected inactive hazardous waste registry.





SOURCE: N.Y.S. DEPARTMENT OF TRANSPORTATION, NIAGARA FALLS QUADRANGLE
DATED 1989, 7.5 MINUTE SERIES

SITE NO: 932048B
LOCATION: CITY OF NIAGARA FALLS
NIAGARA COUNTY

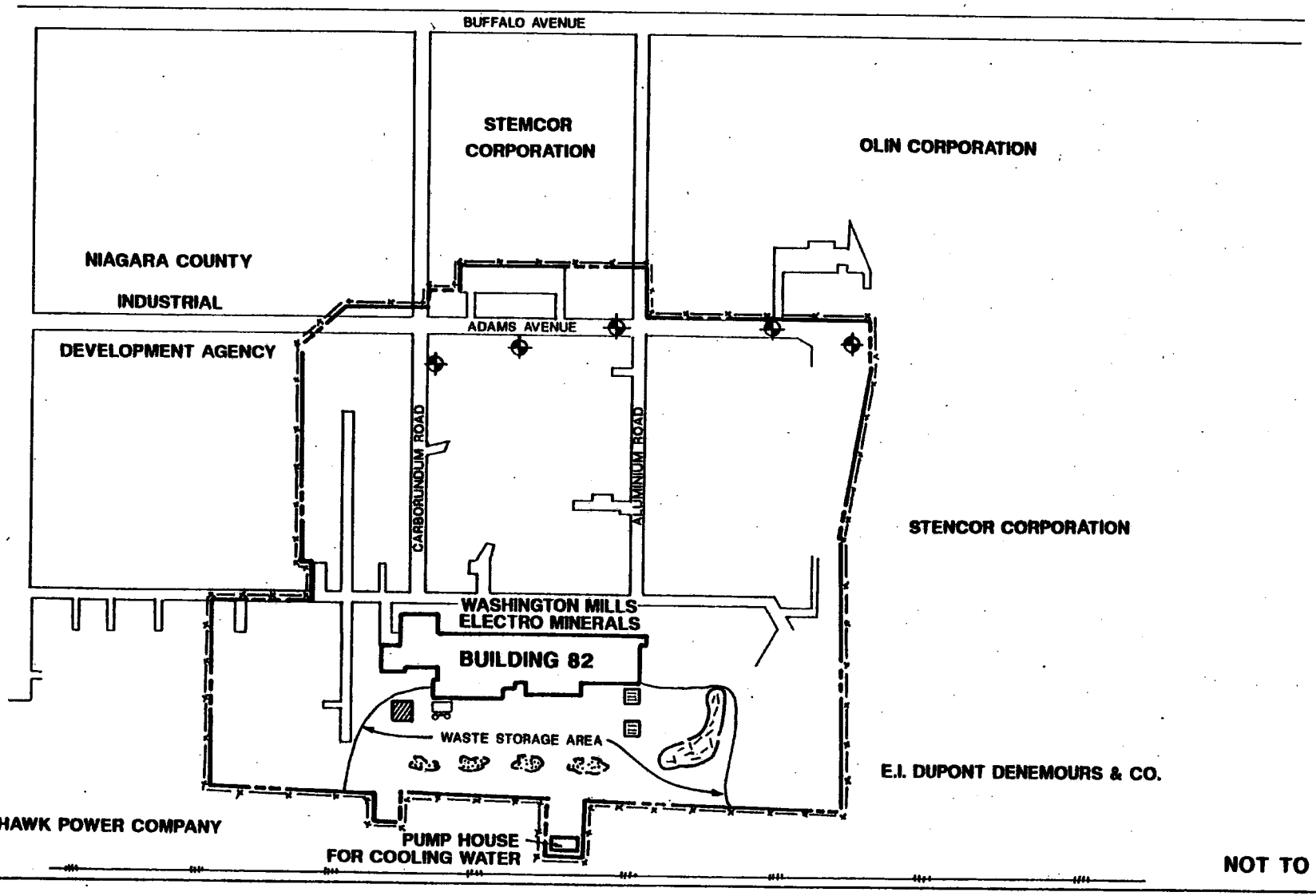
SCALE IN FEET

0 2000 4000

FIGURE 1
SITE LOCATION MAP
CARBORUNDUM BUILDING 82 SITE
PRELIMINARY SITE ASSESSMENT
NEW YORK STATE DEC

EC JORDAN CO

6291-30



LEGEND

- WASHINGTON MILLS ELECTRO MINERALS PROPERTY BOUNDARY
- SPLIT SPOON SOIL SAMPLE LOCATIONS
- PALLET STORAGE
- SCRAP METAL STORAGE
- TRANSFORMER OIL CONTAINMENT PIT
- CONCRETE RUBBLE SOIL - PILES
- HOPPERS CONTAINING Al_2O_3
- RAILROAD
- CHAIN-LINK FENCE

FIGURE 2
SITE SKETCH MAP
CARBORUNDUM BUILDING 82 SITE
PRELIMINARY SITE ASSESSMENT
NEW YORK STATE DEC

E.C.JORDAN CO.

47-15-25 (9/90)—9d

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF HAZARDOUS WASTE REMEDIATION

Original—BHSC
Copy—REGION
Copy—DEE
Copy—DOH
Copy—PREPARER

ADDITIONS/CHANGES TO REGISTRY OF INACTIVE HAZARDOUS WASTE DISPOSAL SITES

1. SITE NAME	2. SITE NO.	3. TOWN	4. COUNTY
Carborundum Building 82	932048B	City of Niagara Falls	Niagara

5. REGION	6. CLASSIFICATION	7. ACTIVITY
9	Current ____ /Proposed X	☐ Add ☐ Reclassify ☒ Delist ☐ Modify ____

8a. DESCRIBE LOCATION OF SITE (Attach U.S.G.S. Topographic Map showing site location).

The site is located south of Building 82 on Washington Mills Electro Minerals property located at 1801 Buffalo Avenue.

b. Quadrangle Niagara Falls Quadrangle c. Site Latitude 43°05'02" Longitude 79°02'14" d. Tax Map Number ____

9a BRIEFLY DESCRIBE THE SITE (Attach site plan showing disposal/sampling locations)

The site is relatively flat and has been graded. It is currently used to store scrap metal, wood pallets, rubble, and recyclable aluminum oxide shot.

b. Area 1 acres c. EPA ID Number D042513754 d. PA/SI ☒ Yes ☐ No

e. Completed: ☒ Phase I ☐ Phase II ☐ PSA ☐ Sampling

10. BRIEFLY LIST THE TYPE AND QUANTITY OF THE HAZARDOUS WASTE AND THE DATES THAT IT WAS DISPOSED OF AT THIS SITE

No hazardous waste was documented as being disposed of at this site.

11a. SUMMARIZED SAMPLING DATA ATTACHED

☐ Air ☐ Groundwater ☐ Surface Water ☐ Soil ☐ Waste ☐ EP Tox ☐ TCLP.

b. List contravened parameters and values

No sampling was performed for this Preliminary Site Assessment Task 1.

12. SITE IMPACT DATA

a. Nearest surface water: Distance 650 ft. Direction South Classification ____

b. Nearest groundwater: Depth 9 ft. Flow Direction South ☐ Sole Source ☐ Primary ☐ Principal

c. Nearest water supply: Distance 2 mi. Direction East Active ☒ Yes ☐ No

d. Nearest building: Distance 30 ft. Direction North Use ____

e. Crops or livestock on site? ☐ Yes ☒ No

f. Exposed hazardous waste? ☐ Yes ☒ No

g. Controlled site access? ☒ Yes ☐ No

h. Documented fish or wildlife mortality? ☐ Yes ☒ No

i. Impact on special status fish or wildlife resource? ☐ Yes ☒ No

j. Within a State Economic Development Zone? ☐ Yes ☒ No

k. For Class 2a; Code ____ Health Model Score ____

l. For Class 2; Priority Category ____

m. HRS Score ____

n. Significant Threat ☐ Yes ____ ☒ No ☐ Unknown

13. SITE OWNER'S NAME	14. ADDRESS	15. TELEPHONE NUMBER
Washington Mills Electro Minerals Corp.	1801 Buffalo Ave. Niagara Falls, New York 14302	(716) 278-6763

16. PREPARER

Name	Title and Organization
Roger Bondeson	Environmental Scientist/E.C. Jordan Co.

Telephone Number	Date	Signature
207-775-54-1	11/28/90	Beth Gan for RB

2.0 PURPOSE

The purpose of a PSA is to provide the information necessary for NYSDEC to reclassify the site according to the following classifications:

Class 2 - Hazardous waste sites presenting a significant threat to the public health or the environment.

Class 3 - Hazardous waste sites not presenting a significant threat to the public health or the environment.

Delist - Sites where hazardous waste disposal is not documented.

Task 1, Data Records Search and Assessment, of a Preliminary Site Assessment (PSA) was conducted at the Carborundum Site, Site No. 932048B, in Niagara Falls, New York by Jordan under the NYSDEC Superfund Standby Contract (Contract No. D002472, Work Assignment No. D002472-6).

The Carborundum Site is a suspected inactive hazardous waste site recognized by NYSDEC. This site is currently classified as Class 2a because there is insufficient information to document hazardous waste disposal and/or assess the significance of potential risks to public health or the environment.

3.0 SCOPE OF WORK

PSA Task 1 consists of two data gathering activities: a file review/records search, and a site walkover. Specific activities performed for the Carborundum Site under these tasks are described in the following subsections.

3.1 File Reviews

The Jordan project team began collecting information on the Carborundum Site at the NYSDEC Central Office in Albany, New York during the week of June 25, 1990. In addition, Jordan personnel reviewed files at the New York State Department of Health (NYSDOH), the U.S. Geological Survey, the U.S. Fish and Wildlife Service, the New York State Department of Transportation, and the State Geological Survey.

On July 16, 1990 the Jordan team reviewed files, provided by Yavuz Erk, P.E., Environmental Engineer II for NYSDEC Region 9 at NYSDEC's Region 9 Office. Jordan personnel reviewed files at the NYSDOH Regional Office in Buffalo, New York on July 17, 1990 and at the Niagara County Health Department (NCHD) on July 20, 1990. Jordan personnel visited the Niagara County Soil and Water Conservation District on July 24, 1990 to obtain copies of aerial photographs of the site; and on July 25, 1990, the Jordan team visited the NYSDEC Region 9 Bureau of Wildlife to identify wetlands and critical habitat areas.

The following individuals were interviewed:

Paul Dicky
Public Health Engineer
Niagara County Health Department
10th and East Falls Street
Niagara Falls, New York
(716) 284-3128

Yavuz Erk
Environmental Engineer II
NYSDEC Region 9
600 Buffalo, NY 14414
(716) 847-4585

3.2 Site Walkover

On July 25, 1990 a site walkover was conducted at the Carborundum Site. The following individuals attended the visit:

Name	Title	Affiliation
Roger Bondeson	Environmental Scientist	E.C. Jordan Co.
Cathy Lanois	Environmental Scientist	E.C. Jordan Co.
Sri Maddineni	Environmental Engineer II	NYSDEC Central
Yavuz Erk	Environmental Engineer II	NYSDEC Region 9
Dean E. Venturin	Environmental Health and Safety Manager	Washington Mills Electro Minerals

The site tour began at 8:30 a.m. and was conducted by Dean Venturin, Environmental Health and Safety Manager for Washington Mills Electro Minerals. Before entering the site the field team calibrated a photoionization detector and explosimeter/oxygen meter to monitor ambient air quality during the inspection. The resulting data were used to confirm that worker health was protected and safety procedures could be instituted if concentrations were detected above background levels. No readings above background were detected.

A sketch of the Washington Mills Electro Minerals property and the waste storage area is shown as Figure 2. The Jordan team, accompanied by Dean Venturin, Yavuz Erk, and Sri Maddineni, entered the waste storage area from the eastern side of the site. In the southeastern section of the waste storage area, the Jordan team observed a large scrap metal pile containing various pieces of equipment. To the west of the scrap metal pile, the Jordan team noted numerous scrap wooden pallets. Further west, and along the fence at the southern border, several small piles of concrete, rubble, and soil were observed. North of these debris piles were several hoppers containing chunks of aluminum oxide.

A small concrete pit, covered by a metal sheet was located on the western border of the waste storage area. This pit reportedly was constructed to contain transformer oil that leaked from storage tank trailers. This pit reportedly was never used (Venturin, 1990). An electrical transformer was observed approximately 60 feet north of the pit and was labeled as containing less than 50 parts per million (ppm) of polychlorinated biphenyls (PCBs). An information sheet concerning this transformer is included in Appendix D.

The waste storage area is relatively flat and has been graded over with crushed stone. Although residual silicon carbide fines, sands, and refractory bricks were observed throughout the grounds, most of the wastes stored prior to 1985 appeared to have been removed. The waste storage area was void of vegetative growth with the exception of sparse weeds and grasses growing near Building 82.

Site access is strictly controlled by a chain-link fence extending around the perimeter of the Washington Mills Electro Minerals property and by a gate located on the northern border of the property. The gate is attended by a guard employed by the company.

Permission to take photographs during the site tour was not granted; therefore, photographs are not included in the site file. The site tour was completed at 10:00 a.m.

4.0 SITE ASSESSMENT

The following subsections describe the information gained through the records search, interviews, and site walkover of the Carborundum Site.

4.1 Site History

The Carborundum waste storage area was used for an unknown period of time to store sand, grinding wheels, refractory brick, fly ash, dust collector fines, wood, metal, kiln furniture, aluminum-silica shot, silicon carbide fines, and other scrap materials. Storage of these waste materials was discontinued in 1979 and remaining wastes were removed in 1985 by Modern Disposal Services, Inc. (Ecology and Environment, 1990 and Venturin, 1990). The site was subsequently covered with crushed stone. Visual observations made during the site tour revealed evidence of refractory brick, sand, and silicon carbide fines in the former waste storage area.

The waste storage site is currently used to store scrap metal and wooden pallets, hoppers containing aluminum oxide, and piles of concrete rubble and soil. The scrap metal is periodically removed and recycled by a scrap metal dealer. The aluminum oxide materials are generated and reused in the manufacturing process. Dust fines generated during the manufacture of abrasive grains are collected in baghouses and either reused or sent to the company's Canadian plant for use in its manufacturing process. Paper, garbage, and wood wastes generated at the facility are disposed through Modern Disposal Services, Inc.

From 1901 to 1978 the Carborundum Corporation owned the property. In 1978, Electro Minerals (U.S.), Inc., owned by the Carborundum Corporation, was purchased by Kennecott Copper. In June of 1981, the property was purchased by Standard Oil of Ohio, and in 1987, Washington Mills Abrasives purchased Electro Minerals (U.S.), Inc. from Standard Oil of Ohio.

All of the owners stated above used the Electro Minerals (U.S.), Inc. facility to manufacture refractory products and/or abrasive grains from silicon carbide, aluminum oxide, graphite, and boron carbide. The manufacturing processes included crushing, sorting, bagging, and arc furnace operations. Building 82 was used to manufacture silicon carbide. In 1981 these operations were discontinued and the building is currently used for storage.

Washington Mills Abrasives, current owners of Electro Minerals (U.S.), Inc. facility (now referred to as Washington Mills Electro Minerals) uses the property to manufacture abrasive grains for sand paper and grinding wheels, and to manufacture refractory brick products. Wastes generated in addition to previously discussed waste streams include acetone, methanol, toluene, waste oils, and greases. These materials are collected by Safety Kleen and

Tonawanda Tank for recycling and/or appropriate disposal. The cleaning solvents are used to wash the grains. These solvents have reportedly never been in contact with the wastes that were stored on the Building 82 Site (Venturin, 1990).

The transformer stored near the waste storage site was labeled as containing less than 50 ppm PCBs and the transformer oil containment pit was reportedly never used (Venturin, 1990).

4.2 Site Topography

Surface topography slopes towards the Niagara River located approximately 650 feet south of the Carborundum Site. With the exception of some sparse weeds and grasses, the storage area is void of vegetation. The nearest wetland is approximately 4.75 miles to the east of the site (NYSDEC, Division of Fish and Wildlife). The Carborundum Building 82 Site is surrounded by several chemical industries and is located in the southern portion of the City of Niagara Falls. The waste storage site is not located in a floodplain (Ecology and Environment, 1990).

4.3 Site Hydrology

The following paragraphs describe what is known about the hydrologic setting at the Carborundum Site. The soils on the Carborundum Site consist of the Odessa-Lakemont-Ovid Association. Generally, these soils are somewhat poorly to very poorly drained and are moderately to fine textured (Soil Conservation Service, 1972).

According to soil borings drilled in 1984, surficial geology consists of crushed stone, sand, cinder, refractory brick, and carbon fines (Thomsen Associates, 1984). Immediately beneath the fill material, silts and clays were encountered. Bedrock of the area is primarily sedimentary in origin and consists of Lockport Dolostone. Bedrock depths range from 10 to 24 feet below ground level. Several of the soil borings encountered standing water at depths of 7 to 12 feet (Ecology and Environment, 1990).

Permeability of soils is 10^{-4} to 10^{-8} cm/sec while permeability of the bedrock is 10^{-2} to 10^{-4} cm/sec (Ecology and Environment, 1990).

Groundwater flow is expected to flow southward, towards the Niagara River. An industrial pumping well for non-contact water is located at the Olin Chemical Plant, approximately one-half mile to the northeast. The pumping action of this well may influence groundwater to flow towards the well (Ecology and Environment, 1990).

The City of Niagara obtains its drinking water from the Niagara River. The intakes for the river water are located upstream from the site; therefore, are not threatened by any potential contamination from this site. The nearest drinking water well is greater than 3 miles away. An industrial pumping well is located approximately one-half mile from the site and is used for non-contact cooling water.

4.4 Contamination Assessment

No sampling data exists for the waste storage area. A grab sample of soil was taken from the concrete containment pit adjacent to the waste storage area and analyzed for PCBs (Venturin, 1990). Analysis revealed concentrations of Aroclor 1260 of 0.0012 milligram per liter (ppm) and 0.55 microgram per gram (ppm) which are lower than the NYSDEC maximum allowable concentration of 50 ppm PCBs for hazardous waste characterization (6 NYCRR 371.4(d)(6)(e)). Results of this analysis is attached as Appendix D.

Split-spoon samples were collected at five locations along Adams Avenue (Figure 2) by Earth Dimensions, Inc., in November of 1984. These samples were taken in connection with the installation of the Adams Avenue storm sewer. Analysis of these samples was conducted by Advanced Environmental Systems, Inc. Laboratory results indicated the presence of volatile organic compounds, phenols, and total mercury (AES, 1984). Because these sample locations are upgradient of the waste storage area, it is unlikely that the results are attributable to the Carborundum Site.

5.0 ASSESSMENT OF DATA ADEQUACY AND RECOMMENDATIONS

5.1 Hazardous Waste Deposition

Information collected by Jordan did not confirm hazardous waste deposition at the Carborundum Site. The information reviewed by Jordan indicates that wastes were temporarily stored, but not disposed of or landfilled at the site. Wastes stored on-site include scrap metal, wood, sand, fly ash, refractory brick, and silicon carbide fines. These wastes are not considered to be hazardous under 6 NYCRR 371.1(d). The type of manufacturing processes used and products made on-site (abrasive grains and refractory brick) are not associated with the generation of hazardous wastes. Therefore, it is unlikely that hazardous wastes are present in any significant quantity at the Building 82 storage site.

The transformer oil containment pit was sampled and analyzed for PCB's in 1984. Sample results revealed PCB in concentrations below RCRA maximum allowable concentrations of 50 ppm for hazardous waste characterization.

5.2 Significant Threat Determination

The Carborundum Building 82 waste storage site does not pose a significant threat to human health and the environment. There is no evidence of hazardous waste disposal at this site and no documented contravention of standards. Access to the site is limited, as it is secured by a chain-link fence, and guarded. There are no wetlands or drinking water wells within 3 miles of the site. Public drinking water intake pipes on the Niagara River are located upstream of the site.

5.3 Recommendations

Based on the information reviewed and on the documentation of the types of waste stored at the site, Jordan recommends the Carborundum Site be delisted from the suspected inactive hazardous waste registry.

Information collected and reviewed by Jordan revealed the following:

- There is no evidence or documentation of hazardous waste disposal.
- The wastes stored at the site included sand, refractory brick, dust collector fines, grinding wheels, scrap metal, wood, kiln furniture, silicon carbide fines, and aluminum-silica shot. These wastes are not defined as hazardous by 6 NYCRR 371.1(d).

- There is no evidence of any landfilling activities.
- PCBs were detected at levels of 0.0012 ppm and 0.55 ppm, well below NYSDEC maximum allowable concentration for nonhazardous waste (50 ppm) (6 NYCRR 371.4(d)(6)(e)).
- The solvents used on-site to rinse abrasive grains (e.g. methanol, acetone, and toluene), have reportedly had no contact with wastes previously stored on the site.
- The site is located downstream from public drinking water intakes on the Niagara River.
- The site is secured by a chain-link fence and guarded.
- The site is not located near wetlands or drinking water wells (both at least three miles away).

Based on these findings, it is Jordan's recommendation that the Carborundum Building 82 Site be delisted from the suspected inactive hazardous waste registry.

GLOSSARY OF ACRONYMS AND ABBREVIATIONS

NCHD	Niagara County Health Department
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
PCBs	polychlorinated biphenyls
ppm	parts per million
PSA	Preliminary Site Assessment

REFERENCES

Advanced Environmental Systems, Inc. (AES), 1984. Investigation Prior to the Installation of the Adams Avenue Storm Sewer Analysis f Soil Samples Collected December 7, 1984, Report Prepared for Standard Oil of Ohio Electro Minerals Company, December 7, 1984.

City of Niagara Falls, Tax Assessor's Office, City Hall, Niagara Falls, New York.

Ecology and Environment Engineering, P.C., 1990. "Engineering Investigations at Inactive Hazardous Waste Sites, Phase I Investigations, Carborundum Building 82, Site Number 932048B", Prepared for New York State Department of Environmental conservation, Division of Hazardous Waste Remediation, January, 1990.

Johnston, R.H. Groundwater in the Niagara Falls Area, New York, State of New York Conservation Department, Water Resources Commission Bulletin GW-53.

New York State Department of Environmental Conservation, Division of Hazardous Waste Remediation, Central Office, Albany, New York, Contact: Sri Maddineni.

New York State Department of Environmental Conservation, Region 9, Division of Solid and Hazardous Waste, 584 Delaware Avenue, Buffalo, New York, Contact: Yavuz Erk.

New York State Department of Environmental Conservation, Region 9, Division of Fish and Wildlife, Wetland Maps, 600 Delaware Avenue, Buffalo, New York.

New York State Department of Health, Corning Tower, The Governor Nelson A. Rockefeller Empire State Plaza, Albany, New York.

New York State Department of Health, Regional Office, 584 Delaware Avenue, Buffalo, New York, Contact: Cameron O'Connor.

New York State Department of Transportation, 1989. Topographic Map, Niagara Falls Quadrangle.

Niagara County Health Department, 10th and East Falls Street, Niagara Falls, New York, Contact: Paul Dicky.

Niagara County Soil and Water Conservation District, Farm and Home Center, 4487 Lake Avenue, Lockport, New York 14094, Contact: Richard Tillman.

REFERENCES
(Continued)

Soil Conservation Service, 1972. "Soil Survey of Niagara County, New York", Soil Conservation Service 4487 Lake Avenue, Lockport, New York, October 1972.

Thomsen Associates, Proposed SIC Facility, SOHIO Electro Minerals Company, Niagara Falls, New York, August 13, 1984.

Venturin, Dean E., 1990. Manager Environmental Health and Safety, Washington Mills Electro Minerals Corporation, 1801 Buffalo Avenue, Niagara Falls, New York 14302. Interview with Roger Bondeson, E.C. Jordan Co., Portland, Maine, July 25, 1990.

APPENDIX B

SITE INSPECTION REPORT
(USEPA FORM 2070-13)

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

EPA

I. IDENTIFICATION	
01 STATE: New York	01 SITE NUMBER: D042513754

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
Carborundum Building 82	1801 Buffalo Avenue

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG. DIST
Niagara Falls	New York	14302	Niagara		

09 COORDINATES LATITUDE	LONGITUDE	10 TYPE OF OWNERSHIP (Check one)
43° 05' 02"._	079° 02' 14"._	X A. PRIVATE _ B. FEDERAL _____ _ C. STATE _ D. COUNTY _ E. MUNICIPAL _ F. OTHER _____ _ G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION	02 SITE STATUS	03 YEARS OF OPERATION
7 / 25 / 90 (MONTH DAY YEAR)	X ACTIVE _ INACTIVE	1901 (BEGINNING YEAR) _____ (ENDING YEAR) ___ UNKNOWN

04 AGENCY PERFORMING INSPECTION (Check all that apply)
_ A. EPA _ B. EPA CONTRACTOR _____ (Name of firm) _ C. MUNICIPAL _ D. MUNICIPAL CONTRACTOR _____ (Name of firm)
_ E. STATE X F. STATE CONTRACTOR E.C. Jordan Co. (Name of firm) _ G. OTHER _____ (Specify)

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO.
Roger L. Bondeson	Environmental Scientist	E.C. Jordan Co.	(207) 775-5401
09 OTHER INSPECTORS	10 TITLE	11 ORGANIZATION	12 TELEPHONE NO.
Kathy Lanois	Environmental Scientist	E.C. Jordan Co.	(207) 775-5401
			( )
			( )
			( )
			( )

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO.
			( )
Dean E. Venturin	Manager, Environmental	Washington Mills Electro Minerals P.O. Box 423, 1801 Buffalo Avenue	(716) 278-6763
	Health & Safety	Niagara Falls, New York	( )
			( )
			( )
			( )
			( )

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
X PERMISSION ☐ WARRANT	8:30 am	Sunny, 76° F

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO.
Sri Maddineni	New York State Department of Environmental Conservation	(518) 457-0638

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	03 DATE
Roger L. Bondeson		E.C. Jordan Co.	(207) 775-5401	7 / 25 / 90 (MONTH DAY YEAR)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION	
01 STATE	01 SITE NUMBER
New York	D042513754

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- X A. SOLID
- X B. POWDER, FINES
- _ C. SLUDGE
- _ D. OTHER _____ (Specify)
- _ E. SLURRY
- _ F. LIQUID
- _ G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

TONS: unknown
CUBIC YARDS: _____
NO. OF DRUMS: _____

03 WASTE CHARACTERISTICS (Check all that apply)

- _ A. TOXIC
- _ B. CORROSIVE
- _ C. RADIOACTIVE
- _ D. PERSISTENT
- _ E. SOLUBLE
- _ F. INFECTIOUS
- _ G. FLAMMABLE
- _ H. IGNITABLE
- _ I. HIGHLY VOLATILE
- _ J. EXPLOSIVE
- _ K. REACTIVE
- _ L. INCOMPATIBLE
- _ M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			Temporary storage area for sand, fly ash, fire
OLW	OILY WASTE			brick, dust collector fines, kiln furniture, wood,
SOL	SOLVENTS			grinding wheels, aluminum-silica shot, fiber and
PSD	PESTICIDES			metal scrap. No waste has been landfilled. The
OCC	OTHER ORGANIC CHEMICALS			area is not now in use.
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04/STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Preliminary Site Assessment Report, January 1991, E.C. Jordan Co., and references cited therein.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	01 SITE NUMBER
New York	D042513754

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 X A. GROUNDWATER CONTAMINATION — 02 _ OBSERVED (DATE: _____) _ POTENTIAL _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: unknown — 04 NARRATIVE DESCRIPTION

There is potential for contamination; site is not lined.

01 X B. SURFACE WATER CONTAMINATION — 02 _ OBSERVED (DATE: _____) _ POTENTIAL _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: > 10,000 — 04 NARRATIVE DESCRIPTION

Potential for surface water is present, site is approximately 600 feet from the Niagara River. Potential is low because waste is no longer being stored on-site.

01 X C. CONTAMINATION OF AIR — 02 _ OBSERVED (DATE: _____) _ POTENTIAL _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: > 10,000 — 04 NARRATIVE DESCRIPTION

Potential is low as waste is no longer being stored on-site.

01 X D. FIRE/EXPLOSIVE CONDITIONS — 02 _ OBSERVED (DATE: _____) _ POTENTIAL _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 100-1,000 — 04 NARRATIVE DESCRIPTION

Waste no longer present in storage area.

01 _ E. DIRECT CONTACT — 02 _ OBSERVED (DATE: _____) _ POTENTIAL _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: unknown — 04 NARRATIVE DESCRIPTION

Potential for direct contact is low-waste is removed and site is graded over with fill.

01 X F. CONTAMINATION OF SOIL — 02 _ OBSERVED (DATE: _____) _ POTENTIAL _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 100-1,000 — 04 NARRATIVE DESCRIPTION

Potential for soil contamination is higher; waste was placed directly on ground surface. Only workers would be exposed as site is guarded and fenced.

01 _ G. DRINKING WATER CONTAMINATION — 02 _ OBSERVED (DATE: _____) _ POTENTIAL _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: < 10 — 04 NARRATIVE DESCRIPTION

Potential is low; water intake for Niagara Falls is located upstream in the Niagara River.

01 X H. WORKER EXPOSURE/INJURY — 02 _ OBSERVED (DATE: _____) _ POTENTIAL _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 100-1,000 — 04 NARRATIVE DESCRIPTION

Potential for worker exposure is low; waste has been removed and site graded over with fill.

01 X I. POPULATION EXPOSURE/INJURY — 02 _ OBSERVED (DATE: _____) _ POTENTIAL _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 10-100 — 04 NARRATIVE DESCRIPTION

Potential is low; waste has been removed and site graded over with fill. Site is also fenced and guarded.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE: New York	01 SITE NUMBER: D042513754

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 _ J. DAMAGE TO FLORA — 02 _ OBSERVED (DATE: _____) _ POTENTIAL _ ALLEGED
04 NARRATIVE DESCRIPTION

01 X K. DAMAGE TO FAUNA — 02 _ OBSERVED (DATE: _____) _ POTENTIAL _ ALLEGED
04 NARRATIVE DESCRIPTION (Include name(s) of species)

Potential for damage to fauna is low; area is fenced, there is no vegetation and waste has been removed.

01 _ L. CONTAMINATION OF FOOD CHAIN — 02 _ OBSERVED (DATE: _____) _ POTENTIAL _ ALLEGED
04 NARRATIVE DESCRIPTION

01 X M. UNSTABLE CONTAINMENT OF WASTES (Spills/Runoff/Standing liquids, Leaking drums) — 02 _ OBSERVED (DATE: _____) X POTENTIAL _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 100-10,000 — 04 NARRATIVE DESCRIPTION

Potential is low; waste has been removed from site and is covered with fill. Only workers would be exposed because site is fenced and heavily guarded.

01 _ N. DAMAGE TO OFFSITE PROPERTY — 02 _ OBSERVED (DATE: _____) _ POTENTIAL _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

Potential appears to be low; waste has been removed from site.

01 _ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 _ OBSERVED (DATE: _____) _ POTENTIAL _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

Unknown. Potential appears to be low; waste has been removed from site.

01 _ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 _ OBSERVED (DATE: _____) _ POTENTIAL _ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

No potential. Site is fenced, grounds are guarded.

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

A transformer oil containment pit is located adjacent to the waste storage area. A composite sample was taken from this pit. PCBs were detected at 0.0012 ppm and 0.55 ppm.

III. TOTAL POPULATION POTENTIALLY AFFECTED: 18,750

IV. COMMENTS

No evidence or documentation of hazardous waste disposal was discovered.

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Preliminary Site Assessment Report, January 1991, E.C. Jordan Co., and references cited therein.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION	
01 STATE: New York	01 SITE NUMBER: D042513754

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
_ A. NPDES				
_ B. UIC				
_ C. AIR				
_ D. RCRA				
_ E. RCRA INTERIM STATUS				
_ F. SPCC PLAN				
_ G. STATE (specify)				
_ H. LOCAL (specify)				
X I. OTHER (specify)	SPDES NYD001367481			For cooling water discharge
_ J. NONE				

III. SITE DESCRIPTION

01 STORAGE/DISPOSAL (check all that apply)	02 AMOUNT	03 UNIT OF MEASURE
_ A. SURFACE IMPOUNDMENT		
_ B. PILES		
_ C. DRUMS, ABOVE GROUND		
_ D. TANK, ABOVE GROUND		
_ E. TANK, BELOW GROUND		
_ F. LANDFILL		
_ G. LANDFARM		
X H. OPEN DUMP	unknown	
_ I. OTHER _____ (specify)		

04 TREATMENT (check all that apply)
- _ A. INCINERATION
- _ B. UNDERGROUND INJECTION
- _ C. CHEMICAL/PHYSICAL
- _ D. BIOLOGICAL
- X F. SOLVENT RECOVERY
- X G. OTHER RECYCLING/RECOVERY
- _ H. OTHER _____ (specify)

05 OTHER
- X A. BUILDINGS ONSITE

06 AREA OF SITE: 40 (acres)

07 COMMENTS

There is no documentation that hazardous wastes were stored on-site.

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (check one)

_ A. ADEQUATE, SECURE _ B. MODERATE X C. INADEQUATE, POOR _ D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC.

No liners in use.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: _ YES X NO

02 COMMENTS

Site is fenced and guarded, waste has been removed.

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Preliminary Site Assessment Report, January 1991, E.C. Jordan Co., and references cited therein.

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT

EPA

PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE	01 SITE NUMBER
New York	D042513754

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (check as applicable)

	SURFACE	WELL
COMMUNITY	A. X	A. _
NON-COMMUNITY	B. _	B. _

02 STATUS

ENDANGERED	AFFECTED	MONITORED
A. _	B. _	C. X
D. _	E. _	F. _

03 DISTANCE TO SITE

A. 2 (mi)
B. _____ (mi)

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (check one)

_ A. ONLY SOURCE FOR DRINKING
_ B. DRINKING (other sources available) COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available)
X C. COMMERCIAL INDUSTRIAL IRRIGATION (Limited other sources available)
_ D. NOT USED, UNUSABLE

02 POPULATION SERVED BY GROUNDWATER 0

03 DISTANCE TO NEAREST DRINKING WATER WELL > 3 (mi)

04 DEPTH TO GROUNDWATER	05 DIRECTION OF GROUNDWATER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
9 (ft)	southwest	9 (ft)	unknown (gpd)	_ YES X NO

09 DESCRIPTION OF WELLS (including usage, depth, and location relative to population and buildings)

A well drawing water from the aquifer of concern is used for non-contact cooling processes. This well is located approximately 4/10 mile to the northeast on the Olin Corp. property.

10 RECHARGE AREA		11 DISCHARGE AREA	
X YES _ NO	COMMENTS - Bedrock aquifer can be recharged by precipitation seeping through soil.	_ YES X NO	COMMENTS

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

X A. RESERVOIR, RECREATION DRINKING WATER SOURCE
_ B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES
_ C. COMMERCIAL INDUSTRIAL
_ D. NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME:	AFFECTED	DISTANCE TO SITE
Niagara River	_	600 feet
Lake Ontario	_	14 (mi)
	_	(mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE	TWO (2) MILES OF SITE	THREE (3) MILES OF SITE
A. 18,758 NO. OF PERSONS	B. 39,797 NO. OF PERSONS	C. 58,663 NO. OF PERSONS

02 DISTANCE TO NEAREST POPULATION

0.25 (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE

17,710

04 DISTANCE TO NEAREST OFF-SITE BUILDING

100 feet

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within written vicinity of site, e.g., rural, village, densely populated urban area)

This site is in a highly industrialized area. A densely populated urban area is located within a half-mile radius of this site.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT

PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION	
01 STATE: New York	01 SITE NUMBER: D042513754

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

_ A. 10^{-6} - 10^{-8} cm/sec X B. 10^{-4} - 10^{-6} cm/sec _ C. 10^{-4} - 10^{-3} cm/sec _ D. GREATER THAN 10^{-3} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

_ A. IMPERMEABLE (less than 10^{-6} cm/sec) _ B. RELATIVELY IMPERMEABLE (10^{-4} - 10^{-6} cm/sec) X C. RELATIVELY PERMEABLE (10^{-2} - 10^{-4} cm/sec) _ D. VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL Ph	
9 (ft)	unknown (ft)	5.6 - 7.6	

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE		
		SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
4 (in)	2.5 (in)	0.1 %	southwest	0.1 %

09 FLOOD POTENTIAL

SITE IS IN N/A YEAR FLOODPLAIN

10 _ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 acre minimum)

ESTAURINE: A. > 3 (mi) OTHER: B. 3.5 (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)

> 3 (mi)

ENDANGERED SPECIES: N/A

13 LAND USE IN VICINITY

DISTANCE TO:

COMMERCIAL/INDUSTRIAL	RESIDENTIAL AREAS; NATIONAL/STATE PARKS, FORESTS, OR WILDLIFE RESERVES	AGRICULTURAL LANDS PRIME AG LAND	AGRICULTURAL LANDS AG LAND
A. 0 (mi)	B. 1,500 feet	C. 1.5 (mi)	D. 1.5 (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

The site is located 1-3/4 miles east of the American Falls in the City of Niagara Falls, New York; Niagara Co. It is 600 feet north of the Niagara River in a highly industrialized southern section of the city. This area is characterized by numerous chemical plant facilities. Residential areas are located approximately 1,500 feet to the north of the site.

VII. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Preliminary Site Assessment Report, January 1991, E.C. Jordan Co., and references cited therein.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 6 - SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION	
01 STATE: New York	01 SITE NUMBER: D042513754

II. SAMPLES TAKEN - No samples were collected during this PSA Task 1

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER			
SURFACE WATER			
WASTE			
AIR			
RUNOFF			
SPILL			
SOIL			
VEGETATION			
OTHER			

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS
HNU Air Monitoring	No readings above background noted

IV. PHOTOGRAPHS AND MAPS

01 TYPE _ GROUND _ AERIAL

02 IN CUSTODY OF NYSDEC (Name of organization or individual)

03 MAPS X YES _ NO

04 LOCATION OF MAPS: Sri Maddineni, NYSDEC, Albany, New York

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

No other field data was collected for this PSA Task 1.

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Preliminary Site Assessment Report, January 1991, E.C. Jordan Co., and references cited therein.

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 7 - OWNER INFORMATION

EPA

I. IDENTIFICATION

01 STATE	01 SITE NUMBER
New York	D042513754

II. CURRENT OWNER(S) / **PARENT COMPANY** (If applicable)

01 NAME	02 D+B NUMBER	08 NAME	09 D+B NUMBER
Electro Minerals (U.S.), Inc.		Washington Mills Abrasives	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	**04 SIC CODE**	**10 STREET ADDRESS** (P.O. Box, RFD #, etc.)	**11 SIC CODE**
Buffalo Avenue		20 North Main Street	

05 CITY	06 STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE
Niagara Falls	New York	14302	North Grafton	MA	

01 NAME	02 D+B NUMBER	08 NAME	09 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	**04 SIC CODE**	**10 STREET ADDRESS** (P.O. Box, RFD #, etc.)	**11 SIC CODE**
05 CITY / **06 STATE**	**07 ZIP CODE**	**12 CITY** / **13 STATE**	**14 ZIP CODE**

01 NAME	02 D+B NUMBER	08 NAME	09 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	**04 SIC CODE**	**10 STREET ADDRESS** (P.O. Box, RFD #, etc.)	**11 SIC CODE**
05 CITY / **06 STATE**	**07 ZIP CODE**	**12 CITY** / **13 STATE**	**14 ZIP CODE**

01 NAME	02 D+B NUMBER	08 NAME	09 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	**04 SIC CODE**	**10 STREET ADDRESS** (P.O. Box, RFD #, etc.)	**11 SIC CODE**
05 CITY / **06 STATE**	**07 ZIP CODE**	**12 CITY** / **13 STATE**	**14 ZIP CODE**

III. PREVIOUS OWNER(S) (List most recent first) / **IV. REALTY OWNER(S)** (If applicable; list most recent first)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
Carborundum			
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	**04 SIC CODE**	**03 STREET ADDRESS** (P.O. Box, RFD #, etc.)	**04 SIC CODE**
Buffalo Avenue			

05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE
Niagara Falls	New York	14302			

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	**04 SIC CODE**	**03 STREET ADDRESS** (P.O. Box, RFD #, etc.)	**04 SIC CODE**
05 CITY / **06 STATE**	**07 ZIP CODE**	**05 CITY** / **06 STATE**	**07 ZIP CODE**

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	**04 SIC CODE**	**03 STREET ADDRESS** (P.O. Box, RFD #, etc.)	**04 SIC CODE**
05 CITY / **06 STATE**	**07 ZIP CODE**	**05 CITY** / **06 STATE**	**07 ZIP CODE**

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Preliminary Site Assessment Report, January 1991, E.C. Jordan Co., and references cited therein.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - OPERATOR INFORMATION

I. IDENTIFICATION

01 STATE	01 SITE NUMBER
New York	D042513754

II. CURRENT OPERATOR (Provide if different from owner)

01 NAME	02 D+B NUMBER
Washington Mills Electro Minerals	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
Buffalo Avenue	

05 CITY	06 STATE	07 ZIP CODE
Niagara Falls	New York	14302

08 YEARS OF OPERATION	09 NAME OF OWNER
2	

OPERATOR'S PARENT COMPANY (If applicable)

10 NAME	11 D+B NUMBER
Washington Mills Abrasives	

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE
20 North Main Street	

14 CITY	15 STATE	16 ZIP CODE
North Grafton	MA	

III. PREVIOUS OPERATOR(S) (List most recent first; provide only if different from owner)

01 NAME	02 D+B NUMBER
Carborundum Corp.	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
Buffalo Avenue	

05 CITY	06 STATE	07 ZIP CODE
Niagara Falls	New York	

08 YEARS OF OPERATION	09 NAME OF OWNER

PREVIOUS OPERATOR'S PARENT COMPANIES (If applicable)

10 NAME	11 D+B NUMBER
Standard Oil of Ohio	

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

14 CITY	15 STATE	16 ZIP CODE
Cleveland	OH	

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER

10 NAME	11 D+B NUMBER

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

14 CITY	15 STATE	16 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER

10 NAME	11 D+B NUMBER

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

14 CITY	15 STATE	16 ZIP CODE

IV. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Preliminary Site Assessment Report, January 1991, E.C. Jordan Co., and references cited therein.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION	
01 STATE: New York	01 SITE NUMBER: D042513754

II. ON-SITE GENERATOR

01 NAME	02 D+B NUMBER	
Washington Mills Electro Minerals		
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	
Buffalo Avenue		
05 CITY	06 STATE	07 ZIP CODE
Niagara Falls	New York	14302

III. OFF-SITE GENERATOR(s)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY / 06 STATE / 07 ZIP CODE		05 CITY / 06 STATE / 07 ZIP CODE	
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY / 06 STATE / 07 ZIP CODE		05 CITY / 06 STATE / 07 ZIP CODE	

IV. TRANSPORTER(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
Modern Disposal Services, Inc.			
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
Model City Road			
05 CITY	06 STATE	07 ZIP CODE	05 CITY / 06 STATE / 07 ZIP CODE
Lewiston	New York	14092	
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY / 06 STATE / 07 ZIP CODE		05 CITY / 06 STATE / 07 ZIP CODE	

IV. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Preliminary Site Assessment Report, January 1991, E.C. Jordan Co., and references cited therein.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION	
01 STATE	01 SITE NUMBER
New York	D042513754

II. PAST RESPONSE ACTIVITIES

01 _ A. WATER SUPPLY CLOSED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 _ B. TEMPORARY WATER SUPPLY PROVIDED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 _ C. PERMANENT WATER SUPPLY PROVIDED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 _ D. SPILLED MATERIAL REMOVED — 02 DATE unknown — 03 AGENCY _____
04 DESCRIPTION
N/A

01 _ E. CONTAMINATED SOIL REMOVED — 02 DATE unknown — 03 AGENCY _____
04 DESCRIPTION
N/A

01 _ F. WASTE REPACKAGED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 X G. WASTE DISPOSED ELSEWHERE — 02 DATE 1985 — 03 AGENCY _____
04 DESCRIPTION
Wastes stored at the site were removed by Modern Disposal Services, Inc. in 1988.

01 _ H. ON SITE BURIAL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 _ I. IN SITU CHEMICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 _ J. IN SITU BIOLOGICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 _ K. IN SITU PHYSICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 _ L. ENCAPSULATION — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 _ M. EMERGENCY WASTE TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 _ N. CUTOFF WALLS — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 _ O. EMERGENCY DIKING/SURFACE WATER DIVERSION — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 _ P. CUTOFF TRENCHES/SUMP — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 _ Q. SUBSURFACE CUTOFF WALL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION	
01 STATE	01 SITE NUMBER
New York	D042513754

II. PAST RESPONSE ACTIVITIES (Continued)

01 _ R. BARRIER WALLS CONSTRUCTED 04 DESCRIPTION	02 DATE		03 AGENCY
N/A			
01 _ S. CAPPING/COVERING 04 DESCRIPTION	02 DATE		03 AGENCY
N/A			
01 _ T. BULK TANKAGE REPAIRED 04 DESCRIPTION	02 DATE		03 AGENCY
N/A			
01 _ U. GROUT CURTAIN CONSTRUCTED 04 DESCRIPTION	02 DATE		03 AGENCY
N/A			
01 _ V. BOTTOM SEALED 04 DESCRIPTION	02 DATE		03 AGENCY
N/A			
01 _ W. GAS CONTROL 04 DESCRIPTION	02 DATE		03 AGENCY
N/A			
01 _ X. FIRE CONTROL 04 DESCRIPTION	02 DATE		03 AGENCY
N/A			
01 _ Y. LEACHATE TREATMENT 04 DESCRIPTION	02 DATE		03 AGENCY
N/A			
01 _ Z. AREA EVACUATED 04 DESCRIPTION	02 DATE		03 AGENCY
N/A			
01 X 1. ACCESS TO SITE RESTRICTED 04 DESCRIPTION	02 DATE	1987	03 AGENCY
Site is fenced and the grounds are guarded.			
01 _ 2. POPULATION RELOCATED 04 DESCRIPTION	02 DATE		03 AGENCY
N/A			
01 _ 3. OTHER REMEDIAL ACTIVITIES 04 DESCRIPTION	02 DATE		03 AGENCY
N/A			

IV. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Preliminary Site Assessment Report, January 1991, E.C. Jordan Co., and references cited therein.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 11 - ENFORCEMENT INFORMATION

I.IDENTIFICATION	
01 STATE	01 SITE NUMBER
New York	D042513754

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION X YES _ NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY/ENFORCEMENT ACTION

Phase I Investigation by Ecology and Environment Engineering, P.C., January 1990.

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Preliminary Site Assessment Report, January 1991, E.C. Jordan Co., and references cited therein.

APPENDIX C

INTERVIEW DOCUMENTATION FORMS

E.C. Jordan Co.
Work Assignment No. D002472-6

New York State Department of Environmental Conservation
Preliminary Site Assessments

INFORMATIONAL INTERVIEW

Job No: 6291-20

Date: 7/19/90

Site: Carborundum Building 82 Site

Telephone: ____ In-Person X

Between: Roger Bondeson
E.C. Jordan Co.

and: Dean E. Venturin, Manager
Environmental Health & Safety
Washington Mills Electro Minerals

Affiliation:

Signature: Roger Bondeson

Signature: Dean E. Venturin

The Carborundum Building 82 Site is now owned by Washington Mills Electro Minerals Corporation, a subsidiary of Washington Mills Abrasives. Property was purchased in December 1986.

Previous owners include Standard Oil 1981-1986; Kennocott Copper 1978-1981; and Carborundum 1901-1978.

All companies including current ownership manufactured abrasive grains from silicon carbide, aluminum oxide, and boron carbide.

Processes at the plant include crushing, bagging, and arc furnace processing.

The Carborundum Building 82 Site was used prior to 1985 to store wastes such as sand, fly ash, fire bricks, dust collector fines, kiln furniture made of ceramic materials, silicon carbide fines, and aluminum oxide fines.

The wastes stored at the Carborundum Building 82 Site were removed and diposed of by Modern Disposal Services, Inc. 1985.

Waste disposal practices since 1985 include the recycling of dust collector fines and scrap metal. Other solid wastes are disposed of in the Modern Landfill. Dust fines consist of aluminum oxide (Al_2O_3).

Spent cleaning solvents used to rinse abrasive grains and waste oils in other areas of the plant are collected and removed by Safety Kleen and Tonawanda Tank.

Cleaning solvents used to rinse grains include methanol, toluene, and acetone. These solvents were not used near the Building 82 Site nor were they in contact with wastes previously sorted on the Building 82 Site.

The storage site is now used to store scrap metal, concrete, rubble, soil, pallets, and hoppers containing chunks of Al_2O_3.

Storm drain waters are discharged to the City of Niagara Falls storm sewer system in accordance with a SPDES permit issued by the city.

INFORMATIONAL INTERVIEW

Job No:	6291-20	Date:	7/19/90
Site:	Carborundum Building 82 Site	Telephone:	In-Person X
Between:	Roger Bondeson E.C. Jordan Co.	and:	Dean E. Venturin, Manager Environmental Health & Safety Washington Mills Electro Minerals
		Affiliation:	
Signature:	Roger Bondeson	Signature:	Dean E. Venturin

Noncontact cooling water is discharged into the Niagara River in accordance with a SPDES permit issued by NYSDEC.

The Carborundum Building 82 was used for the manufacture of abrasive crude from silicon carbide. Since 1981, Building 82 has been used for storage.

A concrete pit located on the southwest side of the waste storage area was constructed to contain transformer oil leaks from mobile tank trailers that were parked near the pit. The concrete pit was reportedly never used. A grab sample was taken from the pit several years ago and analyzed for PCB's. PCB's were not detected. The pit is currently covered with metal sheets and serves no function to plant operations.

The transformer located south of Building 83 of the Washington Mills Electro Minerals property contains less than 50 ppm of PCB.

Two underground storage tanks have been closed out in accordance with NYSDEC regulations. These tanks are not located in the waste storage area.

Chrome oxide is used by Washington Mills Electro Minerals to color final products such as grinding wheels. Chrome oxide is not stored or disposed of on the Carborundum Building 82 Site. As chrome oxide is used to color final products, no chrome oxide waste is produced.

APPENDIX D

PCB ANALYSIS FOR TRANSFORMER OIL CONTAINMENT PIT

ACTS TESTING LABS, INC.

3900 Broadway • Buffalo, N.Y. 14227-1192 • (716) 684-3300

TECHNICAL REPORT 4-4893 August 27, 1984

Mrs. Jill Knickerbocker
SCA CHEMICAL SERVICES

OBJECT:

Analysis of one "composited" sample for Polychlorinated Biphenyl (PCB's). Five samples were received on August 14, 1984 from Mrs. Jill Knickerbocker. The samples were labeled Carborundum Pit Samples and, were combined by this laboratory into one composite sample. PCB analyses were performed on both the Aqueous and Sludge Layers.

RESULTS:

	PCB'S	
Aqueous Layer	0.0012 Milligrams per liter	ppm
Sludge Layer	0.55 Micrograms per gram	µg/g or ppm

Note: The PCB concentrations are reported as Aroclor 1260.

EXPERIMENTAL:

Five hundred Milliliters (Mls) of the Aqueous Layer were extracted three times with 60 Mls of Methylene Chloride, concentrated in a Kuderna-Danish apparatus to 2 Mls, crossed over into Hexane, re-concentrated to 2 Mls, reacted (cleaned) with Sulfuric Acid and Mercury, and two Microliters injected into a Shimadzu Gas Chromatograph.

The sludge layer (20 Grams) was extracted 16 hours in a Soxhlet apparatus with Methylene Chloride, concentrated to 2 Mls in a Kuderna-Danish Apparatus, crossed into Hexane, re-concentrated to 2 Mls, reacted with Sulfuric Acid and Mercury, and two Microliters injected into the Shimadzu Gas Chromatograph.

ACTS TESTING LABS. INC.

Mrs. Jill Knickerbocker
SCA CHEMCIAL SERVICES

August 27, 1984
PAGE # 2
TECHNICAL REPORT # 4-4893

The Gas Chromatograph is equipped with a Ni-63, Electron Capture Detector which is monitored with a Shimadzu Microprocessor. A 25 Meter Silicone coated capillary column, held isothermally at 220° C, was used to effect separation. The chromatograph was calibrated with known concentrations of Aroclor 1260.

ACTS TESTING LABS, INC.

Elmer K. Gerbracht

Elmer K. Gerbracht
Technical Director

dl

TO ACTS
3900 Broadway

SCA CHEMICAL SERVICES

CHAIN OF CUSTODY

№ 088

SCA CHEMICAL SERVICES, INC.
1550 Balmer Rd.
MODEL CITY, NEW YORK 14107

SAMPLERS (signature)

ATION MBER	STATION LOCATION	DATE	TIME	SAMPLE TYPE	NO. OF CONTAINERS	ANALYSIS REQUIRED all 5
borundum t samples		8-3-84		grab	5	composites + run PCBs on water phase and on solids phase

elinquished by: (signature) Jill Kruckenberger	Received by: (signature) Frank T. Clark	Date/Time 8-14-84
elinquished by: (signature) Frank T. Clark	Received by: (signature) Sue Schaab	Date/Time 8-14-84 3:30
elinquished by: (signature)	Received by: (signature)	Date/Time
elinquished by: (signature)	Received by: (signature)	Date/Time

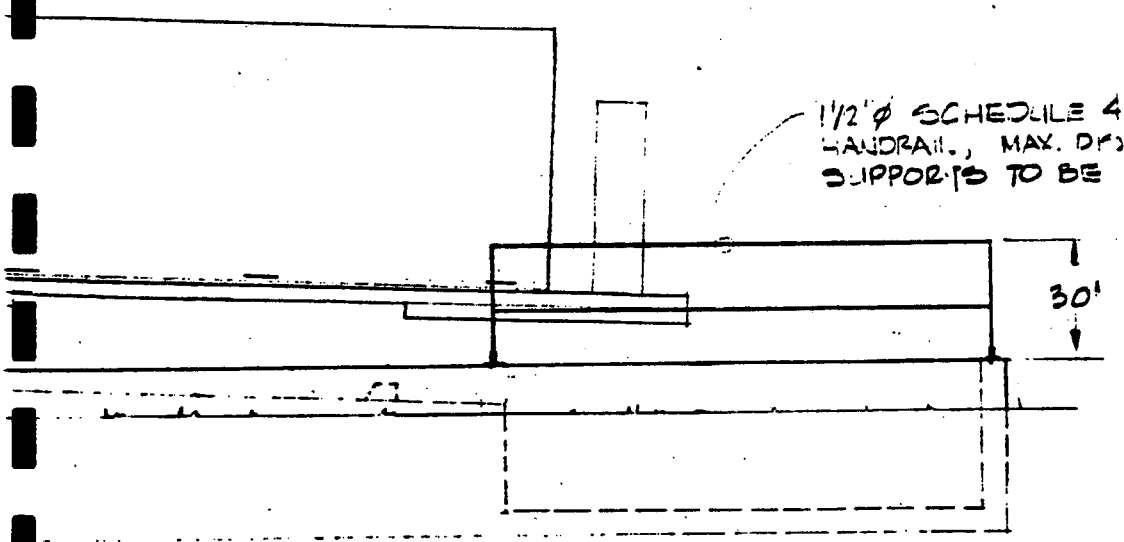
ispatched by: (signature)	Date/Time	Received by: (signature)	Date/Time

ethod of Shipment:

eceiving Laboratory:

NOTE: PLEASE SUBMIT THIS FORM WITH ALL REPORTS!

*TANK TRAILER SHOWN IN APROX. LOCATION
(2000 GAL. STORAGE TANK)



SCALE: ¼" = 1'-0"

REV.

CARBORUNDUM
ELECTRO MINERALS DIVISION

SUBJECT- OIL TANK STORAGE PAD

LOCATION- WEST OF BUILDING 95

SCALE- DATE- MAY, 18, 1979

DRAWN- S. GREENWALD CHECKED-

TRACED- APPROVED-

JOB NO.

DWG. NO. 501672

REV.

TRANSFORMER CONSULTANTS A DIVISION OF S.D. MYERS INC. P.O. BOX 4724 AKRON, OHIO 44310 DATE PRINTED 10/26/84

CUST-SOHIO ELECTRO MINERALS CO CITY - NIAGARA FALLS NY ID#- 06460000 TC#-0035
SUB NAME SPARE TRANSFORMER UNIT#- MOBILE OTHER - LOCATION - OUTDOOR/

NAMEPLATE DATA

MFG- GE
DATE MFG -
S/N- C863469
KVA- 1,500
PRI- 12,000
SEC- 480

EQUIP TYPE - TRANSFORMER
TRANS CLASS -
IMPEDENCE - 5.94%
PHASE/CYCLE - 3/60
LIQUID TYPE - OIL
GAL LIQUID - 590

ADDITIONAL EQUIPMENT

RADIATORS - YES
FANS - NO
H20 COOLED - NO
OIL PUMPS - NO
TOP FPV - 1.00 INCH
BOTTOM FPV - .50 INCH

CONSERVATOR- NO
TAP CHANGER- NO
BUSHING LOC- SIDE
RECLAIMER -
POWER V/A -
OTHER ACCESS -

VISUAL INSPECTION

PAINT CONDITION-FAIR LEAKS-NONE

-- FIELD SERVICE --

-- PCB CONTENT/EXPRESSED IN PPM --

DATE OF SERVICE	1242 AROCLOR	1254 AROCLOR	1260 AROCLOR	TOTAL CONTENT
11/02/79			18	18

COLOR LABEL - GREEN CLASS -

LIQUID SCREEN TEST DATA

DATE	LEVEL	TEMP	P/V	ACID	IFT	DIEL	COLOR	SP. GR.	VISUAL	SEDIMENT
4/00/75				.040 AC	32.2 AC	40 AC	0.75 AC	0.886 AC	CLEAR AC	NONE AC
8/00/76				.020 AC	31.4 QU	45 AC	0.75 AC	0.880 AC	CLEAR AC	NONE AC
1/00/78				.020 AC	32.8 AC	45 AC	0.75 AC	0.880 AC	CLEAR AC	NONE AC
12/00/78				.020 AC	32.7 AC	41 AC	0.75 AC	0.880 AC	CLEAR AC	NONE AC
10/00/79				.040 AC	37.9 AC	39 AC	0.75 AC	0.880 AC	CLEAR AC	NONE AC
10/00/80				.030 AC	35.6 AC	40 AC	0.75 AC	0.880 AC	CLEAR AC	NONE AC
10/00/81				.020 AC	36.4 AC	37 AC	0.75 AC	0.880 AC	CLEAR AC	NONE AC
11/00/82				.020 AC	36.8 AC	36 AC	1.00 AC	0.880 AC	CLEAR AC	NONE AC
10/12/83	NORMAL	20 C	0.0	.020 AC	37.8 AC	27 QU	1.00 AC	0.880 AC	CLEAR AC	NONE AC
10/10/84	NORMAL	20 C	0.0	.030 AC	36.6 AC	37 AC	1.00 AC	0.880 AC	CLEAR AC	NONE AC

COMMENTS TRANSFORMER OIL TEST DATA ACCEPTABLE, HOWEVER STUDIES INDICATE OXIDATION BY-PRODUCTS TRAPPED IN INSULATION.

GAS-IN-OIL ANALYSIS/GAS CHROMATOGRAPHY EXPRESSED IN PPM

DATE	HYDROGEN	OXYGEN	NITROGEN	METHANE	CARBON MONOXIDE	CARBON DIOXIDE	ETHANE	ETHYLENE	ACETYLENE	TOTAL COMBUSTIBLE	TOTAL GAS	EVALUATION

* THIS TEST IS AN INVALUABLE TOOL USED TO EVALUATE THE OPERATION OF IN-SERVICE AND

* SERVICE-AGED TRANSFORMERS FOR MAX-LIFE RESULTS.

AC - ACCEPTABLE QU - QUESTIONABLE UN - UNACCEPTABLE

Time Period Site was Used for Hazardous Waste Disposal:

Unknown, 19___ To _____, 19 79

Owner(s) During Period of Use: Carborundum Corp. (SOHIO)

Site Operator During Period of Use: Carborundum Corp.

Address of Site Operator: Buffalo Avenue, Niagara Falls

Analytical Data Available: [ ] Air [ ] Surface Water [ ] Groundwater
[ ] Soil [ ] Sediment [X] None

Contravention of Standards: [ ] Groundwater [ ] Drinking Water
[ ] Surface Water [ ] Air

Soil Type: Silts, clays

Depth to Groundwater Table: Approx. 10 feet

Legal Action: Type: none [ ] State [ ] Federal

Status: [ ] In Progress [ ] Completed

Remedial Action: [ ] Proposed [ ] Under Design
[ ] In Progress [ ] Completed

Nature of Action: Stored wastes were removed to approved landfill in 1975.

Assessment of Environmental Problems:

Unknown

Assessment of Health Problems:

Unknown

Person(s) Completing This Form:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Name: _____
Title: _____
Name: _____
Title: _____
Date: _____

NEW YORK STATE DEPARTMENT OF HEALTH

Name: _____
Title: _____
Name: _____
Title: _____
Date: _____

APPENDIX C

PHOTOCOPIED REFERENCES

INVESTIGATION PRIOR TO THE INSTALLATION OF THE ADAMS AVENUE STORM SEWER ANALYSIS OF SOIL SAMPLES COLLECTED DECEMBER 7, 1984

Report Prepared For

SOHIO ELECTRO MINERALS COMPANY

By

ADVANCED ENVIRONMENTAL SYSTEMS, INC.

Prepared by:

Susan M. Cerquetti
GC Division

David P. Mix
Metals Division

Kathleen A. Martin
Wet Chemistry Division

W. Joseph McDougall, for
Leonard Borzynski
Technical Evaluation

December 7, 1984
AES Job ANY

SCOPE OF WORK

Six (6) soil samples were analyzed for parameters required by the New York State Department of Environmental Conservation, Region 9.

COLLECTION OF SAMPLES

On Friday, November 23, 1984, Earth Dimension, Inc. collected split spoon soil samples from five locations along Adams Avenue. Mr. Donald Owens, Soil Scientist, delivered the samples directly to the AES Laboratory.

ANALYTICAL METHODOLGY REFERENCE LIST

Analyses were performed in accordance with some of the methods in the references listed below and as specified in the Laboratory Report.

1. EPA 600/D-80-021, "Guidelines Establishing Test Procedures for the Analysis of Pollutants; Proposed Regulations", Federal Register 44(233), December 3, 1979.

2. EPA 600/D-80-022, "Guidelines Establishing Test Procedures for the Analysis of Pollutants; Proposed Regulations, Correction", Federal Register 44(244), December 18, 1979.

3. EPA 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", (1983)

4. EPA 600/4-79-057, "Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater", (1982)

5. EPA-SW-846, "Test Methods for Evaluating Solid Waste, Physical/ Chemical Methods", second edition (1982)

6. "Standard Methods for the Examination of Water and Wastewater", 15th Edition, (1980)

7. New York State Institute of Toxicology Analytical Handbook, October 1982

8. NIOSH Manual of Analytical Methods, second edition 1977

9. "The Analysis of Polychlorinated Biphenyls in Transformer Fluid and Waste Oil", EPA Environmental Monitoring and Support Laboratory, draft, June 24, 1980

10. "Interim Methods for the Sampling and Analysis of Priority Pollutants in Sediments and Fish Tissue", EPA 600/4-81-055, January 7, 1983.

ADVANCED ENVIRONMENTAL SYSTEMS, INC.
LABORATORY REPORT

TYPE OF ANALYSIS: VOLATILE ORGANICS/THO SCAN
UNITS OF MEASURE: MILLIGRAMS/KILOGRAM, OR PPM **
CLIENT:SOHIO A.E.S. JOB CODE (ANY)

ANALYSIS	METHOD	REF	SAMPLE IDENTIFICATION				
			A0 BH #1 11/23/84	A1 BH #2 11/23/84	A2 BH #3 11/23/84	A3 BH #4 11/23/84	A4 BH #5 11/23/84
VINYL CHLORIDE	5030	5	<0.06	<0.06	<0.06	<0.06	<0.06
METHYLENE CHLORIDE	5030	5	<0.02	<0.02	<0.02	<0.02	<0.02
1,1 - DICHLOROETHYLENE	5030	5	<0.04	<0.04	<0.04	<0.04	<0.04
TRANS-1,2-DICHLOROETHYLENE	5030	5	<0.04	<0.04	<0.04	<0.04	<0.04
CHLOROFORM	5030	5	<0.04	<0.04	0.05	<0.04	<0.04
1,1,1-TRICHLOROETHANE	5030	5	<0.04	<0.04	<0.04	<0.04	<0.04
CARBON TETRACHLORIDE	5030	5	<0.10	<0.10	0.51	0.18	<0.10
BROMODICHLOROMETHANE	5030	5	<0.06	<0.06	<0.06	<0.06	<0.06
TRANS-1,3-DICHLOROPROPENE	5030	5	<0.04	<0.04	<0.04	<0.04	<0.04
TRICHOROETHYLENE	5030	5	<0.03	0.18	<0.03	<0.03	<0.03
CIS-1,3-DICHLOROPROPENE	5030	5	<0.05	<0.05	<0.05	<0.05	<0.05
1,1,2-TRICHLOROETHANE	5030	5	<0.05	<0.05	<0.05	<0.05	<0.05
DIBROMOCHLOROMETHANE	5030	5	<0.08	<0.08	<0.08	<0.08	<0.08
BROMOFORM	5030	5	<0.26	<0.26	<0.26	<0.26	<0.26
TETRACHLOROETHYLENE	5030	5	<0.03	0.11	0.04	<0.03	<0.03
1,2,2-TETRACHLOROETHANE	5030	5	<0.10	<0.10	<0.10	<0.10	<0.10
DICHLOROBENZENES(ISOMERS)	5030	5	<0.07	<0.07	<0.07	<0.07	<0.07
THO SCAN	*	7	<0.22	<0.22	<0.23	<0.25	<0.20

*SAMPLE WAS EXTRACTED ACCORDING TO "MODIFIED NIELSON-KRYGER STEAM DISTILLATION" AND ANALYZED ACCORDING TO "TOTAL CHLORINATED HYDROCARBONS"

** Reported on dry weight basis

ADVANCED ENVIRONMENTAL SYSTEMS, INC.
LABORATORY REPORT

TYPE OF ANALYSIS: VOLATILE ORGANICS/THO SCAN
UNITS OF MEASURE: MILLIGRAMS/KILOGRAM, OR PPM
CLIENT:SOHIO A.E.S. JOB CODE (ANY)

ANALYSIS	METHOD	REF	SAMPLE IDENTIFICATION A5 FIELD DUP. 11/23/84
VINYL CHLORIDE	5030	5	<0.06
METHYLENE CHLORIDE	5030	5	<0.02
1,1 - DICHLOROETHYLENE	5030	5	<0.04
TRANS-1,2-DICHLOROETHYLENE	5030	5	<0.04
CHLOROFORM	5030	5	0.08
1,1,1-TRICHLOROETHANE	5030	5	<0.04
CARBON TETRACHLORIDE	5030	5	0.11
BROMODICHLOROMETHANE	5030	5	<0.06
TRANS-1,3-DICHLOROPROPENE	5030	5	<0.04
TRICHOROETHYLENE	5030	5	<0.03
CIS-1,3-DICHLOROPROPENE	5030	5	<0.05
1,1,2-TRICHLOROETHANE	5030	5	<0.05
DIBROMOCHLOROMETHANE	5030	5	<0.08
BROMOFORM	5030	5	<0.26
TETRACHLOROETHYLENE	5030	5	0.04
,1,2,2-TETRACHLOROETHANE	5030	5	<0.10
DICHLOROBENZENES(ISOMERS)	5030	5	<0.07
THO SCAN	*	7	<0.23

ADVANCED ENVIRONMENTAL SYSTEMS, INC.
LABORATORY REPORT

TYPE OF ANALYSIS: RESULTS - WET CHEMISTY
UNITS OF MEASURE: MILLIGRAMS/LITER, ORPPM
CLIENT: SOHIO A.E.S. JOB CODE (ANY)

ANALYSIS	METHOD	REF	SAMPLE IDENTIFICATION A0 BH #1 11/23/84	A1 BH #2 11/23/84	A2 BH #3 11/23/84	A3 BH #4 11/23/84	A4 BH #5 11/23/84
PHENOLS	420.1	3	2.6	0.98	< 0.01	< 0.01	1.0
PERCENT SOLIDS*	160.3	3	87.1	91.7	91.5	87.4	91.4

* REPORTED ON A DRY WEIGHT BASIS

ADVANCED ENVIRONMENTAL SYSTEMS, INC.
LABORATORY REPORT

TYPE OF ANALYSIS: RESULTS - WET CHEMISTRY
UNITS OF MEASURE: MILLIGRAMS/LITER, OR PPM
CLIENT:SOHIO A.E.S. JOB CODE (ANY)

ANALYSIS	METHOD	REF	SAMPLE IDENTIFICATION A5 FIELD DUP. 11/23/84
PHENOLS	420.1	3	< 0.01
PERCENT SOLIDS*	160.3	3	86.8

* REPORTED ON A DRY WEIGHT BASIS

ADVANCED ENVIRONMENTAL SYSTEMS, INC.
LABORATORY REPORT

TYPE OF ANALYSIS: RESULTS - METALS
UNITS OF MEASURE: MILLIGRAMS/KILOGRAM, DRY WT.
CLIENT:SOHIO A.E.S. JOB CODE (ANY)

ANALYSIS	METHOD	REF	SAMPLE IDENTIFICATION				
			A0 BH #1 11/23/84	A1 BH #2 11/23/84	A2 BH #3 11/23/84	A3 BH #4 11/23/84	A4 BH #5 11/23/84
TOTAL MERCURY (IN TRIPLE)	7471	5					
ALIQUOT #1			1.4	<0.5	1.5	<0.5	<0.5
ALIQUOT #2			1.0	<0.5	1.9	<0.5	<0.5
ALIQUOT #3			1.4	<0.5	1.7	<0.5	<0.5
AVERAGE			1.3	<0.5	1.7	<0.5	<0.5

ADVANCED ENVIRONMENTAL SYSTEMS, INC.
LABORATORY REPORT

TYPE OF ANALYSIS: RESULTS - METALS
UNITS OF MEASURE: MILLIGRAMS/KILOGRAM,DRY WT.
CLIENT:SOHIO A.E.S. JOB CODE (ANY)

ANALYSIS	METHOD	REF	SAMPLE IDENTIFICATION
			A5 FIELD DUP. 11/23/84
TOTAL MERCURY (IN TRIPLE)	7471	5	
ALIQUOT #1			<0.5
ALIQUOT #2			<0.5
ALIQUOT #3			<0.5

ADVANCED ENVIRONMENTAL SYSTEMS, INC.
LABORATORY REPORT

TYPE OF ANALYSIS:VOLATILE ORGANICS/THO SCAN
UNITS OF MEASURE:MICROGRAMS/LITER, PPB
CLIENT: SOHIO A.E.S. JOB CODE (ANY)

ANALYSIS	TYPE	ORIGINAL CONC.	ADDED CONC.	EXPECTED CONC.	REPORTED CONC.	PERCENT RECOVERY	95% CONFIDENCE INTERVAL
L DANE	R. SPK	997	NONE	997	837	84.0	285-168
VINYL CHLORIDE	A0	<3.10	18.39	18.39	15.67	85.2	9.8-25.
1,1-DICHLOROETHYLENE	A0	<1.80	13.81	13.81	12.72	92.1	11.2-18.
CHLOROFORM	A0	<1.82	13.83	13.83	16.36	118.3	11.3-18.
TRICHLORETHYLENE	A0	<1.37	12.52	12.52	12.28	98.1	9.3-14.
TETRACHLOROETHYLENE	A0	<1.66	11.80	11.80	13.15	111.4	8.0-14.

ADVANCED ENVIRONMENTAL SYSTEMS, INC.
LABORATORY REPORT

TYPE OF ANALYSIS:VOLATILE ORGANICS/THO SCAN
UNITS OF MEASURE:MILLIGRAMS/KILOGRAM, PPM
CLIENT: SOHIO A.E.S. JOB CODE (ANY)

ANALYSIS	SAMPLE	ORIGINAL CONC.	DUPL. CONC.	AVERAGE CONC.	RANGE	REL. % * DIFF.
V..NYL CHLORIDE	A0	<0.06	<0.06	NA**	NA	NA
METHYLENE CHLORIDE	A0	<0.02	<0.02	NA	NA	NA
1,1-DICHLOROETHYLENE	A0	<0.04	<0.04	NA	NA	NA
TRANS-1,2-DICHLOROETHYLENE	A0	<0.04	<0.04	NA	NA	NA
CHLOROFORM	A0	<0.04	<0.04	NA	NA	NA
1,1,1-TRICHLOROETHANE	A0	<0.04	<0.04	NA	NA	NA
CARBON TETRACHLORIDE	A0	<0.10	<0.10	NA	NA	NA
BROMODICHLOROMETHANE	A0	<0.06	<0.06	NA	NA	NA
TRANS-1,3-DICHLOROPROPENE	A0	<0.04	<0.04	NA	NA	NA
TRICHLOROETHYLENE	A0	<0.03	<0.03	NA	NA	NA
CIS-1,3-DICHLOROPROPENE	A0	<0.05	<0.05	NA	NA	NA
1,1,2-TRICHLOROETHANE	A0	<0.05	<0.05	NA	NA	NA
DIBROMOCHLOROMETHANE	A0	<0.08	<0.08	NA	NA	NA
BROMOFORM	A0	<0.26	<0.26	NA	NA	NA
TETRACHLOROETHYLENE	A0	<0.03	<0.03	NA	NA	NA
1,1,2,2-TETRACHLOROETHANE	A0	<0.10	<0.10	NA	NA	NA
CHLOROBENZENES (ALL ISOMERS)	A0	<0.07	<0.07	NA	NA	NA
THO SCAN	A0	<0.22	<0.22	NA	NA	NA

* RELATIVE % DIFFERENCE
RANGE/AVERAGE X 100
**NA - NOT APPLICABLE

ADVANCED ENVIRONMENTAL SYSTEMS, INC.
LABORATORY REPORT

TYPE OF ANALYSIS: TEST CONTROLS - WET CHEMISTRY
UNITS OF MEASURE: MILLIGRAMS/KILOGRAM, OR PPM
CLIENT: SOHIO A.E.S. JOB CODE (ANY)

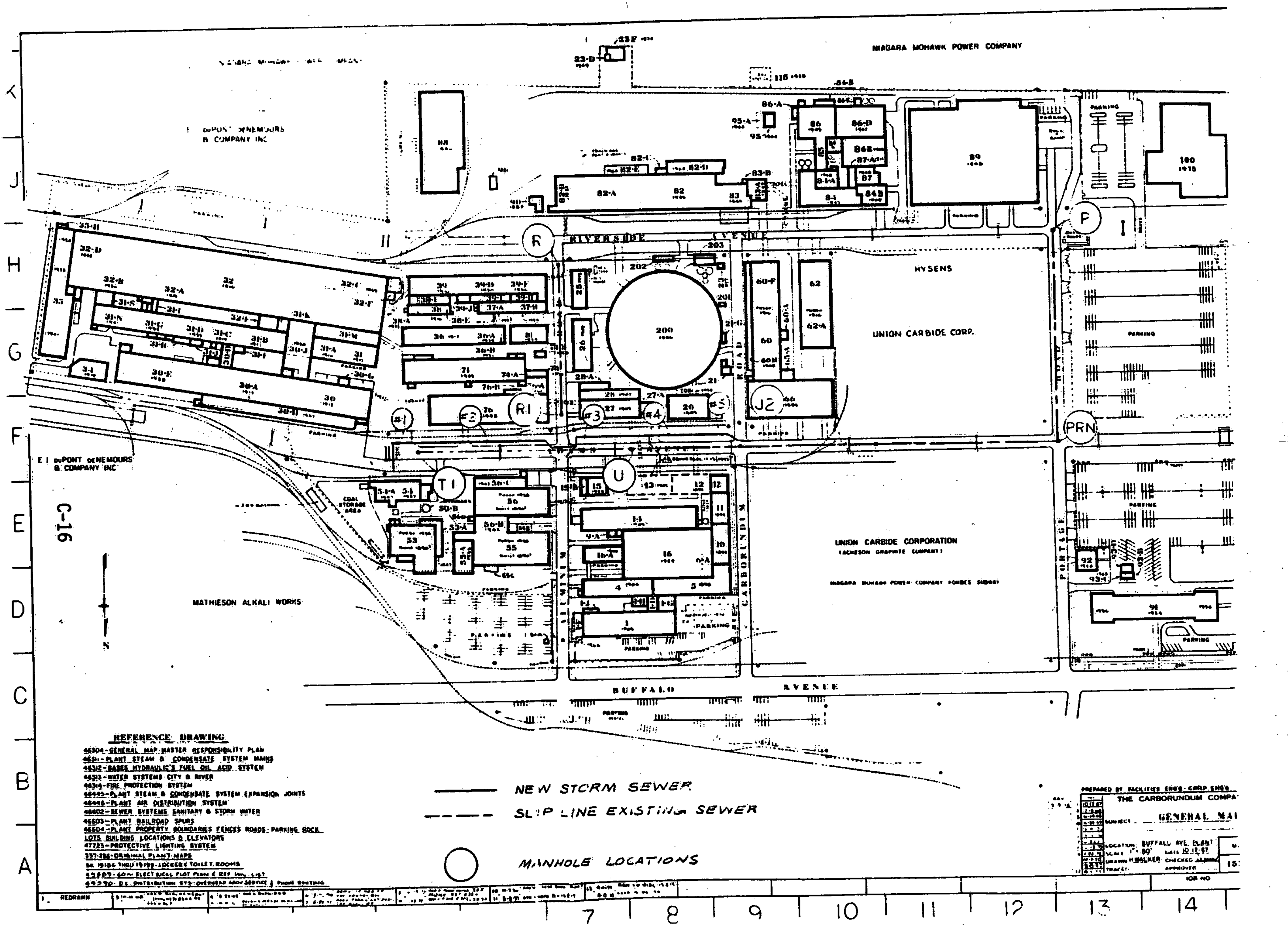
ANALYSIS	TYPE	ORIGINAL CONC.	ADDED CONC.	EXPECTED CONC.	REPORTED CONC.	PERCENT RECOVERY	95% CONFIDENC INTERVAL
PHENOLS	A2-SPK	<0.01	50	50	45.3	90.6	NOT APPLICAB

ADVANCED ENVIRONMENTAL SYSTEMS, INC.
LABORATORY REPORT

TYPE OF ANALYSIS: TEST CONTROLS - METALS
UNITS OF MEASURE: MICROGRAMS/LITER, OR PPB
CLIENT: SOHIO A.E.S. JOB CODE (ANY)

ANALYSIS	TYPE	ORIGINAL CONC.	ADDED CONC.	EXPECTED CONC.	REPORTED CONC.	PERCENT RECOVERY	95% CONFIDENCE INTERVAL
M .CURY	EPA	8.7	NONE	8.7	9.8	112.6	5.9-11.
MERCURY	A0-SPK	2.7	10.0	12.7	14.1	111.0	NOI
MERCURY	A1-SPK	<1.0	10.0	10.0	11.4	114.0	NOI
MERCURY	A2-SPK	3.3	10.0	13.3	14.1	106.0	NOI
MERCURY	A3-SPK	<1.0	10.0	10.0	10.2	102.0	NOI
MERCURY	A4-SPK	<1.0	10.0	10.0	9.2	92.0	NOI
MERCURY	A5-SPK	<1.0	10.0	10.0	9.6	96.0	NOI

NOTE: CONCENTRATIONS ARE REPORTED IN PPB, AS PRESENT IN LIQUID DIGESTED SAMPLES DURING ANALYSIS



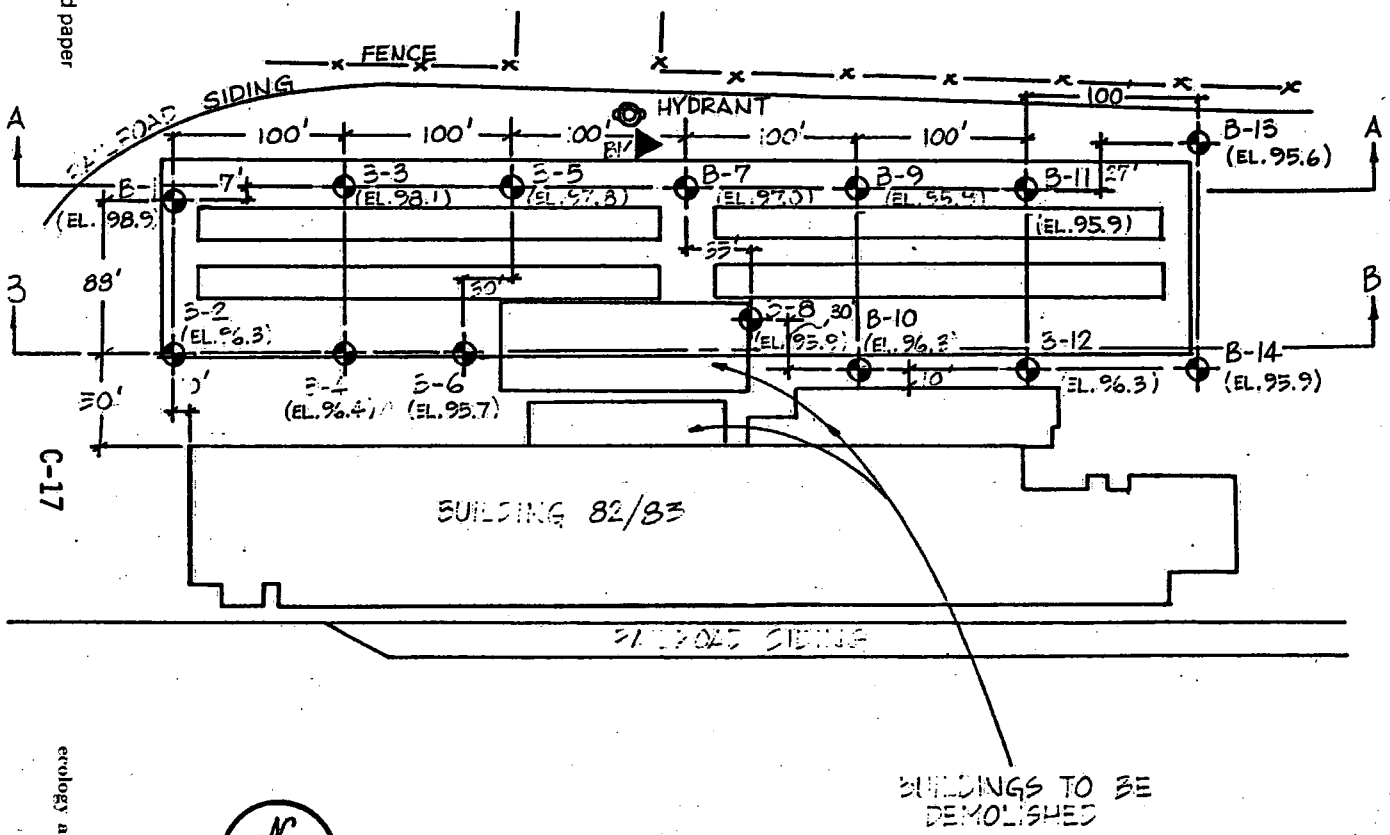
NIAGARA MOHAWK POWER COMPANY
E I duPONT deNEMOURS & COMPANY INC
HYSENS
UNION CARBIDE CORP.
UNION CARBIDE CORPORATION
(ACHESON GRAPHITE COMPANY)
NIAGARA MOHAWK POWER COMPANY FORBES SUBWAY
MATHIESON ALKALI WORKS
RIVERSIDE AVENUE
BUFFALO AVENUE
CARBORUNDUM
PORTAGE ROAD
COAL STORAGE AREA
PARKING
C-16
N
REFERENCE DRAWING
46304-GENERAL MAP-MASTER RESPONSIBILITY PLAN
46311-PLANT STEAM & CONDENSATE SYSTEM MAINS
46312-GASES HYDRAULIC'S FUEL OIL ACID SYSTEM
46313-WATER SYSTEMS CITY & RIVER
46314-FIRE PROTECTION SYSTEM
46443-PLANT STEAM & CONDENSATE SYSTEM EXPANSION JOINTS
46446-PLANT AIR DISTRIBUTION SYSTEM
46602-SEWER SYSTEMS SANITARY & STORM WATER
46603-PLANT RAILROAD SPURS
46604-PLANT PROPERTY BOUNDARIES FENCES ROADS PARKING DOCK LOTS BUILDING LOCATIONS & ELEVATORS
47723-PROTECTIVE LIGHTING SYSTEM
NEW STORM SEWER
SLIP LINE EXISTING SEWER
MANHOLE LOCATIONS
REDRAWN
THE CARBORUNDUM COMPA
GENERAL MA
BUFFALO AVE. PLANT
H.WALKER

ADVANCED ENVIRONMENTAL SYSTEMS, INC.
LABORATORY REPORT

TYPE OF ANALYSIS: DUPLICATE-WET CHEMISTRY
UNITS OF MEASURE: MILLIGRAMS/KILOGRAM, OR PPM
CLIENT: SOHIO A.E.S. JOB CODE (ANY)

ANALYSIS	SAMPLE	ORIGINAL CONC.	DUPL. CONC.	AVERAGE CONC.	RANGE	REL. % * DIFF.
PHENOLS	A2	<0.01	<0.01	NA	NA	NA

* RELATIVE % DIFFERENCE
RANGE/AVERAGE X 100



C-17

LEGEND

B-1 BORING DESIGNATION
(EL.) SURFACE ELEVATION

BM BENCHMARK

NOTES:

1.) BENCHMARK IS NORTH BONNET NUT OF HYDRANT NEAR FENCE LINE SOUTH OF PROPOSED FURNACE BLDG. W/ ASSUMED ELEV. OF 100.0 FEET.

2.) PROFILE OF SECTION A-A IS SHOWN ON DRAWING NO. 3 AND THE PROFILE OF SECTION B-B IS SHOWN ON DRAWING NO. 4.

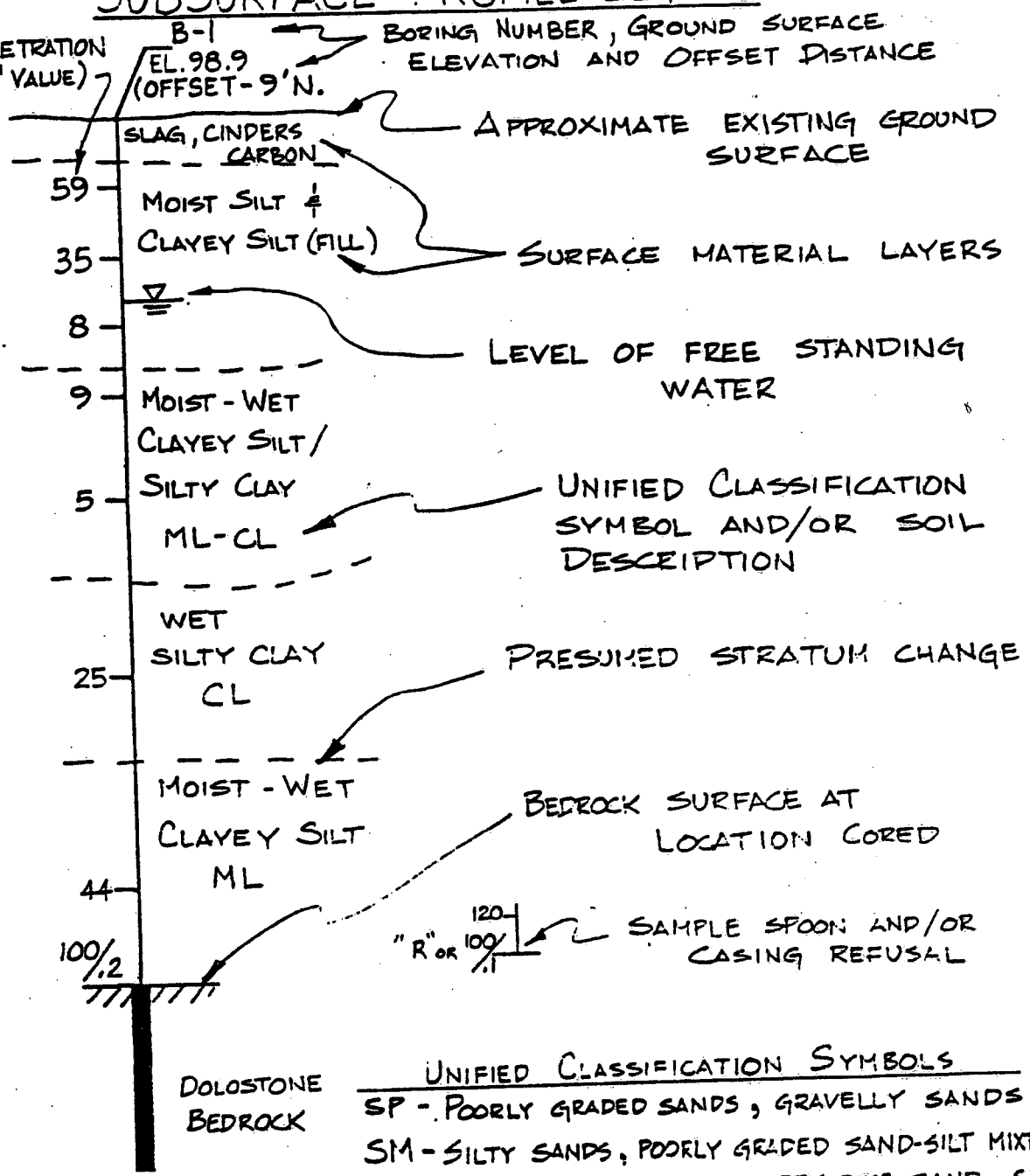
EMPIRE SOIL INVESTIGATIONS, INC.

SUBSURFACE INVESTIGATION PLAN

PROPOSED SIC FACILITY
SOHIO ELECTRO MINERALS COMPANY
NIAGARA FALLS, NEW YORK

DR.BY: AJK/DLP	SCALE: 1" = 80'	PROJ. NO. BTA-84-44
CK'D.BY: DJP	DATE: 3-8-85	DRWG.NO. 1

SUBSURFACE PROFILE LEGEND



UNIFIED CLASSIFICATION SYMBOLS

SP - POORLY GRADED SANDS, GRAVELLY SANDS.

SM - SILTY SANDS, POORLY GRADED SAND-SILT MIXTURES.

ML - INORGANIC SILTS AND VERY FINE SAND, SILTY OR CLAYEY FINE SANDS, CLAYEY SILTS OF LOW PLASTICITY.

CL - INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS.

NOTE:

SUBSURFACE PROFILES ARE SHOWN ON DRAWINGS Nº 3 AND 4.

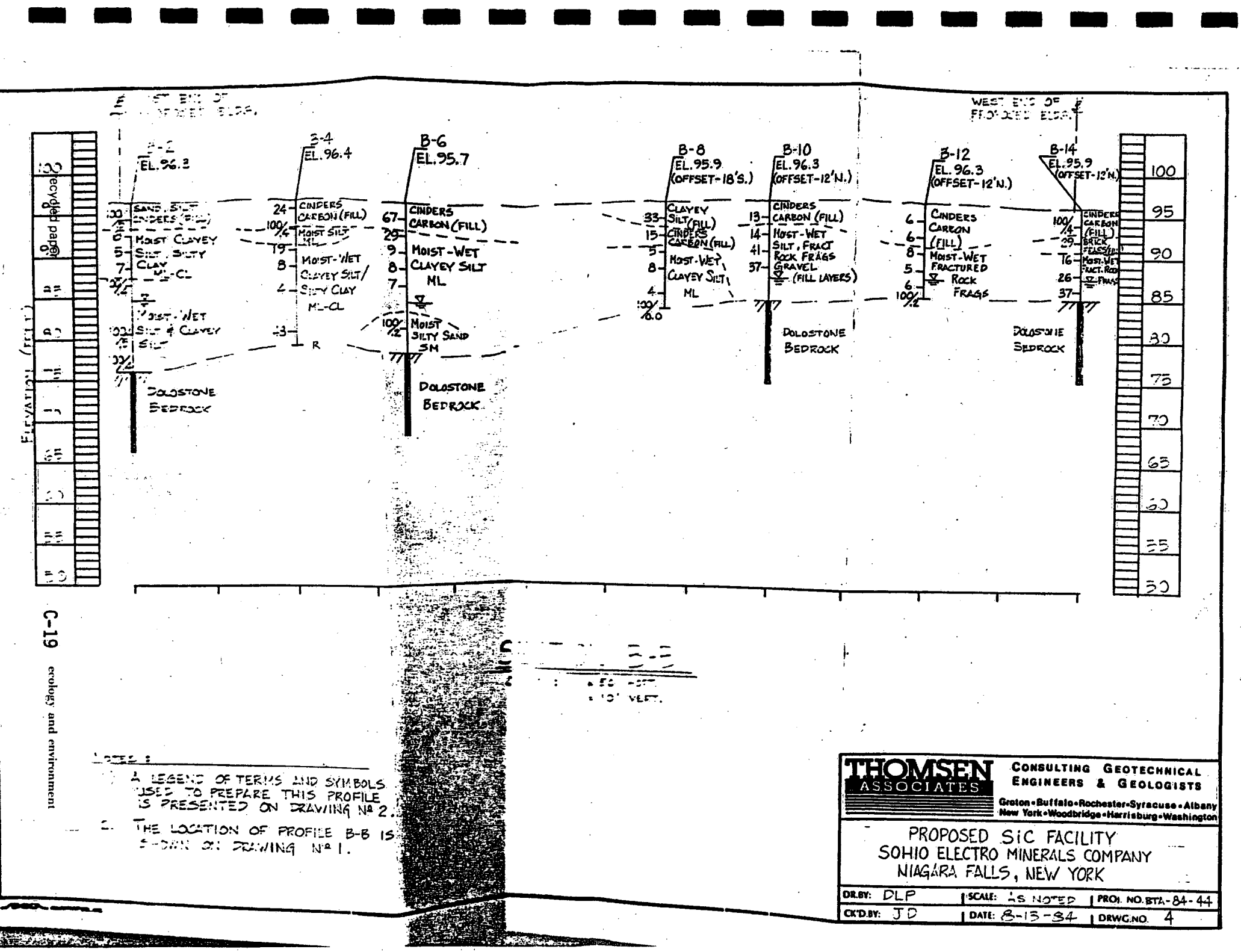
THOMSEN ASSOCIATES

CONSULTING GEOTECHNICAL ENGINEERS & GEOLOGISTS

Groton • Buffalo • Rochester • Syracuse • Albany
New York • Woodbridge • Harrisburg • Washington

PROPOSED SiC FACILITY
SOHIO ELECTRO MINERALS COMPANY
NIAGARA FALLS, NEW YORK

DR.BY: DLP	SCALE: No Scale	PROJ. NO. BTA-84-44
CK'D.BY: JD	DATE: 8-13-84	DRWG.NO. 2



NOTES:

1. A LEGEND OF TERMS AND SYMBOLS USED TO PREPARE THIS PROFILE IS PRESENTED ON DRAWING No 2.
2. THE LOCATION OF PROFILE B-B IS SHOWN ON DRAWING No 1.

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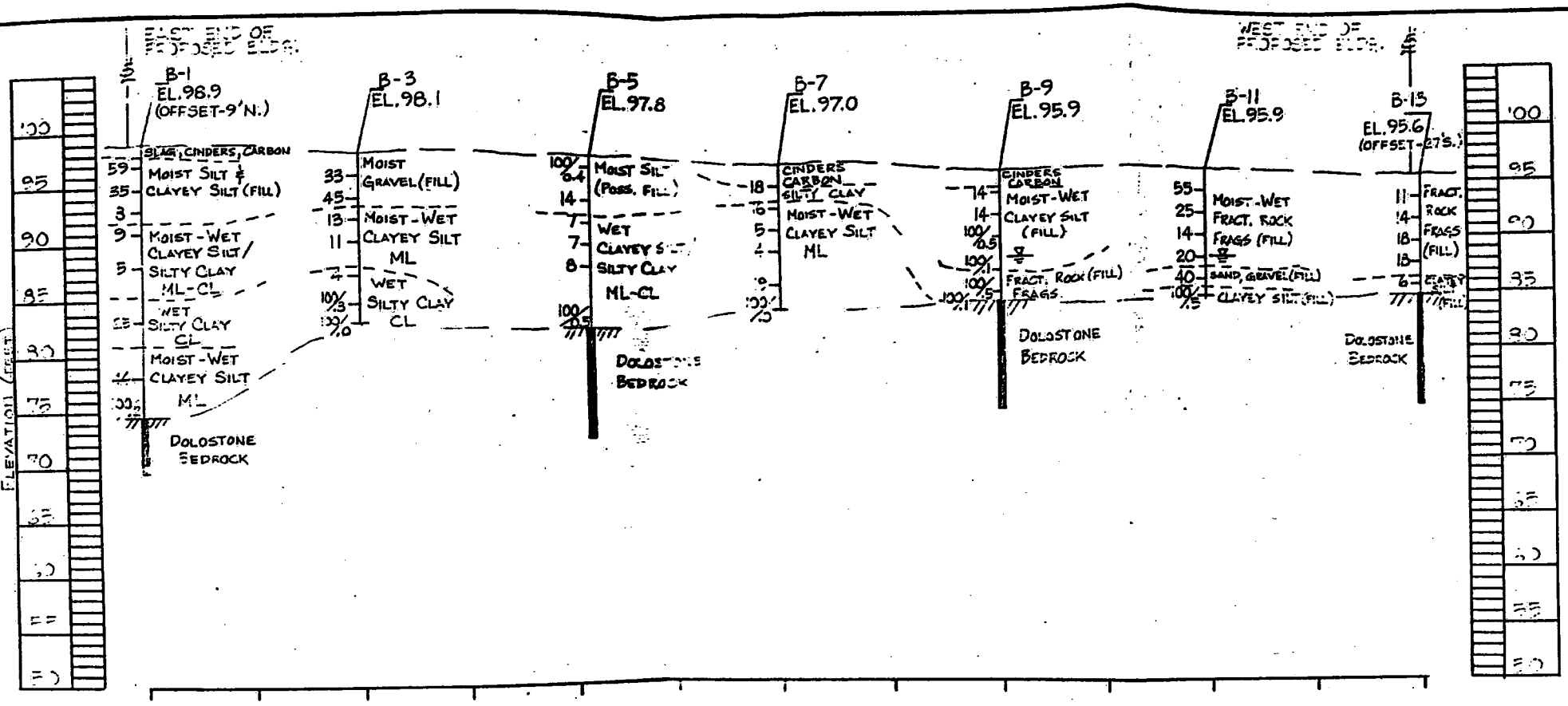
New York • Woodbridge • Harrisburg • Washington

PROPOSED SiC FACILITY
SOHIO ELECTRO MINERALS COMPANY
NIAGARA FALLS, NEW YORK

DR.BY: DLP	SCALE: AS NOTED	PROJ. NO. BTA-84-44	
CK'D.BY: JD	DATE: 8-13-84	DRWG.NO. 4	



C-20

SEC[illegible]

SCALE : [illegible]

NOTES :

1.) A LEGEND OF TERMS AND SYMBOLS USED TO PREPARE THIS PROFILE IS PRESENTED ON DRAWING Nº 2.

2.) THE LOCATION OF PROFILE A-A IS SHOWN ON DRAWING Nº 1

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CONSULTING GEOTECHNICAL ENGINEERS & GEOLOGISTS
Groton • Buffalo • Rochester • Syracuse • Albany
New York • Woodbridge • Harrisburg • Washington

PROPOSED SiC. FACILITY
SOHIO ELECTRO MINERALS COMPANY
NIAGARA FALLS, NEW YORK

DR.BY: DLP	SCALE: AS NOTED	PROJ. NO.	BTA-84-44
CK'D.BY: T.D.	DATE: 8-13-84	DRWG.NO.	3